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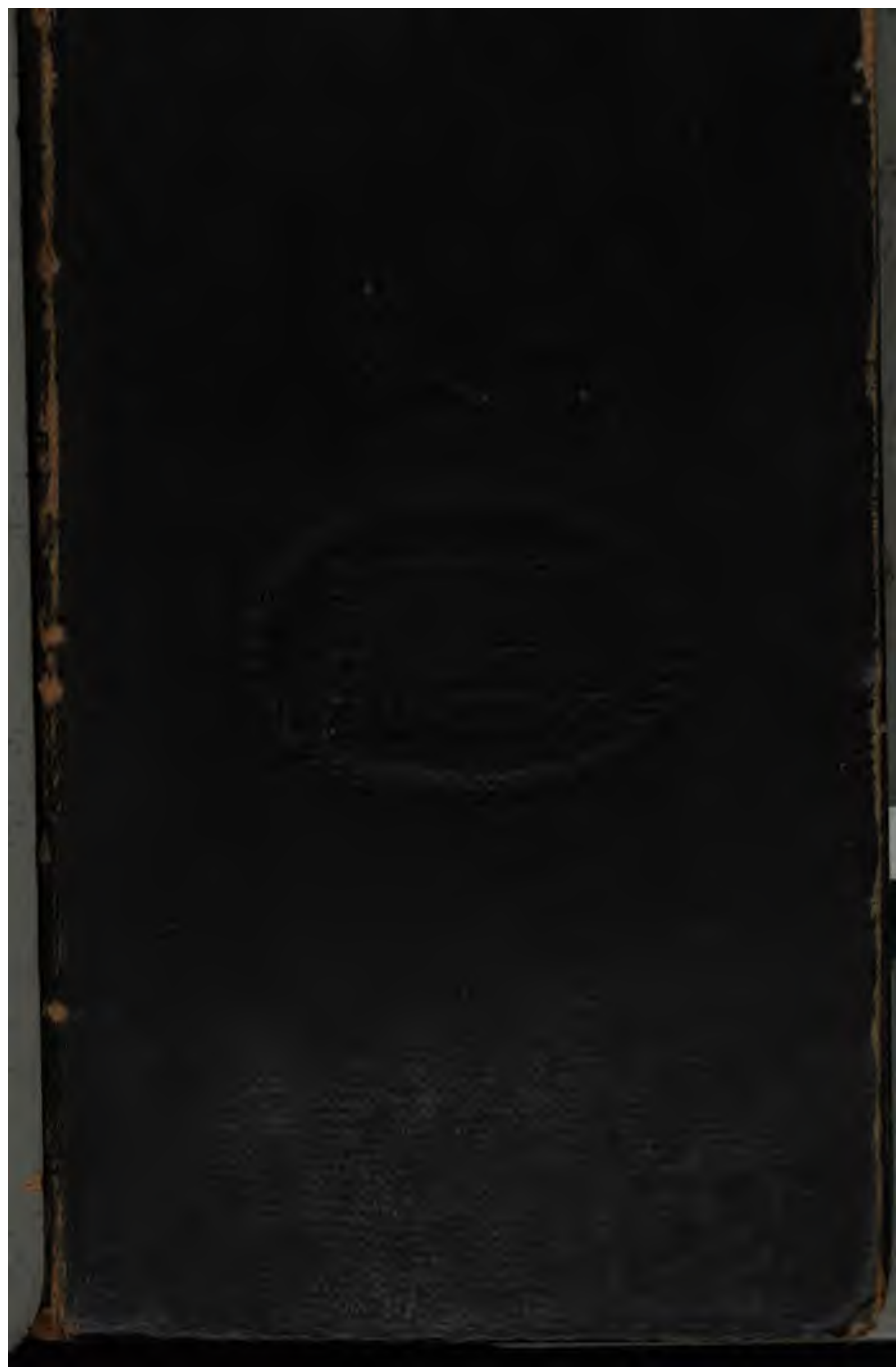
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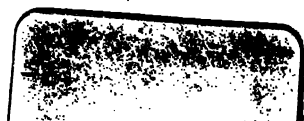
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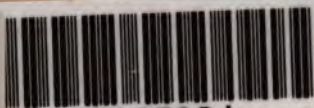
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ANIMAL BIOGRAPHY,

OR,

POPULAR ZOOLOGY;

ILLUSTRATED BY

AUTHENTIC ANECDOTES

OF

THE ECONOMY, HABITS OF LIFE, INSTINCTS, AND SAGACITY,

OF THE

Animal Creation.

BY THE

REV. W. BINGLEY, A. M. F. L. S.

IN FOUR VOLUMES.

SEVENTH EDITION.

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MAMMIFEROUS ANIMALS.

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1829.



TO
MRS. SHERBROOKE,
AND
MISS ELIZABETH COAPE SHERBROOKE,
UNITED
IN VIRTUES, IN PURSUITS, AND AFFECTION,
THESE VOLUMES ARE
INSCRIBED,
A TOKEN OF SINCERE ESTEEM AND RESPECT,
BY THEIR MOST FAITHFUL AND
MUCH OBLIGED SERVANT,
WILLIAM BINGLEY.

P R E F A C E.

IN giving the following work to the public, I wish to be understood, as laying no claim whatever to attention, except on the score of utility. If, however, it shall appear, that, avoiding the track of all former writers, I have brought forward anecdotes and observations which tend to promote the study of this delightful science, I shall consider my labour as having by no means been unprofitably bestowed. For this purpose, besides my own immediate observations, I have ranged through a most expensive collection of books, and I have included the accounts of nearly all the authentic travellers and historians, from the earliest periods to the present time.

The principal intention of this work has been to excite a taste for the study of Natural History, in those persons who have not hitherto attended to the subject. And, by confining my remarks almost exclusively to the habits of life and instincts of the animals, I have endeavoured to lead such of my readers, as may think the subject

worth attention, into a train towards making observations for themselves, in the grand volume of Nature, which lies always open for their perusal.

In composing these volumes, I have, throughout, attended to every thing which I considered might be of use in juvenile instruction; and more particularly in the impression of moral and religious feelings.

To the *female reader* I must remark, that every indelicate subject is scrupulously excluded.

The system to which I have adhered in my arrangement, is that of Linnæus, as corrected by Gmelin, Shaw, and a few other later writers. This, though not perhaps in every respect so natural as some others, is, I conceive, the best calculated, of any extant, to simplify and assist the study.

A

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ON THE

STUDY OF NATURE.

“ONCE upon a time, when the Seven Wise Men of Greece were met together at Athens, it was proposed that each of them should state to the others what he considered to be the greatest wonder in the Creation. One of them asserted that nothing was so wonderful as the heavenly bodies. He explained the opinions of some of the astronomers respecting the fixed stars, that they were so many suns, each having planets rolling round them, which were stocked with plants and animals like this earth. Fired with the idea, they instantly agreed to supplicate Jupiter that he would at least permit them to take a journey to the Moon, and remain there three days, in order that they might view the wonders of that place, and give an account of them to the world at their return. Jupiter consented: he directed them to assemble on a high mountain, where a cloud should be in readiness to convey them thither. They did so, and took with them some men of talents, to assist in describing and painting the objects they should discover. At length they arrived at the Moon, where they found a palace fitted up for their reception. On the day after their arrival, they were so much fatigued with their journey, that they remained in the house till noon; and, continuing still faint, they partook of a delicious entertainment, which they relished so much that it quite overcame their

curiosity. This day they only saw, through the windows, a delightful country, adorned with luxuriant verdure, and with flowers exquisitely beautiful, and heard the melodious singing of the birds. The second day they rose very early, to commence their observations; but some elegant females of the country, calling upon them, advised that they should first recruit their strength before they exposed themselves to the laborious task they were about to undertake. The sumptuous banquet, the rich wines, and the beauty of these females, prevailed over the resolution of the strangers. Music was introduced, the young ones began to dance, and all was turned to jollity; so that the whole of this day seemed dedicated to gaiety and mirth, till some of the neighbours, envious of their happiness, rushed into the room with swords. With some difficulty these were secured; and it was promised, as a recompense to the younger part of the company, that, on the following morning, they should be brought to justice. On the third day the trial was heard; and, in consequence of the time occupied by the accusations, pleadings, exceptions, and the judgment itself, the whole day was occupied, and the term which Jupiter had allowed to the Wise Men expired. When they returned to Greece, the whole country flocked around them to hear the wonders of the Moon described; but all they could say, for it was all they knew, was this: that the ground was covered with verdure, intermixed with flowers; and that the birds sang delightfully among the trees; but what was the nature of the flowers they had seen, of the birds they had heard, or of the country they had visited, they were entirely ignorant. On which they were every where treated with contempt*."

This fable was applied, by Linnæus, to mankind in general. In youth we are too feeble to examine the great objects around

* In the Lectures of Linnæus on Natural History, he frequently made use of some apt similitude by way of exciting the attention of his audience. The preceding fable was one that he adopted in his Lecture on Insects.

us: all that season, therefore, is lost amidst weakness, indolence, luxury, and amusement. We are little better in manhood: settling ourselves in life; marrying; bustling through the world; overwhelmed, at length, with business, cares, and perplexities, we suffer those years also to glide away. Old age succeeds: still some employments intervene, till, at last, we have passed through the world, without scarcely a single recurrence to the admirable works of our Creator; and, in too many instances, even without having duly considered the end for which we were brought into it. This, with a few exceptions, is the progress of man through life. It is true that no one is able to avoid being led, by his own feelings, occasionally to notice the wonderful productions with which he is surrounded. All can remark the beautiful verdure of the fields and woods; the elegance of the flowers; and the melodious singing of the birds; yet few indeed give themselves the trouble of proceeding a single step further, or exhibit any desire of examining into the nature of these astonishing combinations of Divine Power.

It is one material use of the study of Nature, to illustrate this most important of all truths: "That there must be a God: that he must be Almighty, omniscient, and infinite in goodness; and that, although he dwells in a light inaccessible to any mortal eye, yet our faculties see and distinguish him clearly in his works."

In these we are compelled to observe a greatness far beyond our capacities to understand: we see an exact adaptation of parts composing one stupendous whole; an uniform perfection and goodness, that are not only entitled to our admiration, but that command from us the tribute of reverence, gratitude, and love, to the Parent of the Universe. Every step we take in our observations on Nature, affords us indubitable proofs of his superintendence. From these we learn the vanity of all our boasted wisdom, and are taught that useful lesson, humility. We are compelled to acknowledge our dependence on God, and

and that, deprived of his support, we must instantly dissolve into nothing.

Every object in the Creation is stamped with the characters of the infinite perfection and overflowing benevolence of its author. If we examine, with the most accurate discrimination, the construction of bodies, and remark even their most minute parts, we see clearly a necessary dependence that each has upon the other; and, if we attend to the vast concurrence of causes that join in producing the several operations of Nature, we shall be induced to believe further, that the whole world is one connected train of causes and effects, in which all the parts, either nearly or remotely, have a necessary dependence on each other. We shall find nothing insulated, nothing dependent only on itself. Each part lends a certain support to the others, and takes in return its share of aid from them. Let us, for instance, refer to the *eye*, an organ which is common to nearly all animal bodies. Here we have exhibited to us nicety of formation, connexions, and uses, that astonish us. We see it placed in a bony orbit, lined with fat, as an easy socket in which it rests, and in which all its motions readily take place. We know it to be furnished, among many others, with those wonderful contrivances the iris, the pupil, and different humours; and with that incomprehensible mechanism the optic nerve, which affords to the brain, in a manner greatly beyond our conceptions, the images of external objects. How admirable is the construction of the *skeleton*! every particular bone adapted peculiarly to the mode of life and habits of the animal possessing it. The *muscular system* is still more entitled to our wonder; and if we enter into examination of the viscera, the skin, and other parts of the body, we can fix no bounds to our astonishment.

But all the common operations of Nature, surprising as they are, become so familiar to us, that in a great measure they cease to attract our notice. Thus also all the usual powers of animal life, which, were they but adverted to, could not fail to affect the mind with the most awful impressions, are suffered

to operate unheeded, as if unseen.—We all know, for example, that, whenever inclination prompts to it, we can, by a very slight exertion of our vital faculties, raise our hand to our head. Nothing seems more simple or more easy, than this action; yet, when we attempt to form an idea of the way in which that incorporeal existence which we call *mind*, can operate upon matter, and thus put it in motion, we are perfectly lost in the incomprehensible immensity that surrounds us. When we try to investigate the properties of matter, we perceive that, by patience and attention, we can make a progress in attainments to which, according to our limited ideas, bounds can scarcely be assigned. The motions of the planets can be ascertained, their distances measured, and their periods assigned. The Mathematician is able to demonstrate, with the most decisive certainty, that no Fly can alight upon this globe which we inhabit without communicating motion to it; and he can ascertain, if he choose to do it, what must be the exact amount of the motion thus produced. In this train of investigation the mind of a Newton can display its superior powers, and soar to a height that exalts it far above the reach of others; and yet, in trying to explain the cause of animal motion, the meanest reptile that crawls upon the ground, humiliating as the thought may be, is on a footing of perfect equality with a Newton: they can alike exert the powers conferred on them by the Almighty Creator, without being able to form the smallest idea of the way in which they are enabled to produce these effects. Man, however, can contemplate these effects if he will; and Man, perhaps alone, of all the animals that exist on this globe, is permitted, by contemplating the wonders which these unfold, to form, if he please, some idea of his own nothingness, with a view to moderate his pride, and thus to exalt himself above the unconscious agents that surround him.

When the Anatomist considers how many muscles must be put in motion before any animal exertion can be effected: when he views them one by one, and tries to ascertain the

precise degree to which each individual muscle must be constricted or relaxed, before the particular motion which is indicated, can be effected, he finds himself lost in the labyrinth of calculations in which this involves him. When he further reflects that it is not his own body only that is endowed with the faculty of calling forth these incomprehensible energies, but that the most insignificant insect is vested with similar powers, he is still more confounded. A skilful naturalist has been able to ascertain that, in the body of the minutest Caterpillar, there are upwards of *two thousand* muscles, all of which can be brought into action with as much facility, at the will of that insect, and perform their several offices with as much accuracy, promptitude, and precision, as the most perfect animal; and that all this is done by the caterpillar, with equal consciousness of the manner how, as the similar voluntary actions of Man himself are effected! It would be no easy matter to make some men believe that the most minute insect, whose whole life may be calculated for the duration of only a few hours, is, in *all its* parts, as complete, as the Elephant, that treads the forests of India for a century. Little do some persons imagine that even in its appearance, under the greatest magnifying powers, it is as elegant in every respect, and as beautifully finished, as any of the larger animals! Unlike the productions of men, all the minute parts of the works of God appear in greater perfection, and excite in us greater admiration, the more minutely and more accurately they are examined. M. de Lisle saw, with a microscope, a very small insect, that in one second of time, advanced three inches, taking *five hundred and forty* steps; and many of the discoveries of Leuwenhoek were even still more wonderful than this.

If, from the contemplation of microscopic objects, we turn our attention to the *system of the Universe*, and view the Heavens, what an astonishing field of admiration is here afforded us! The immense globe that we inhabit is but a speck in the solar system; and that system, stupendous as it is, is lost in

the immensity of the space around. Our Sun becomes a star to Planets revolving round other Suns, as their Suns become Stars to us. Of these no fewer than *seventy-five millions* may be discovered in the expanse exposed to our investigation. But what are even all these, when compared with the multitudes distributed through the boundless space of air! The Universe must contain such numbers as exceed the utmost stretch of human imagination. To obtain some faint conception of the wonderful extent of space, we may remark that stars of the first magnitude, or such as seem to us the largest, are nearly 19,000,000,000,000 miles from our Sun; and that some of the smallest stars are at many times that distance! "Great is our God, and great is his power! O God, who is like unto thee!"

But to return to the animal Creation; we find there innumerable additional proofs of our hypothesis. We see that all the smaller creatures, which serve us for food, are particularly fruitful, and that they increase in a much greater proportion than others. Of the birds it is extremely remarkable, that, lest they should fall short of a certain number of eggs, they are endowed with the power of laying others in the place of those that are taken away; but that, when their number is complete, they invariably stop. Here is an operation, like many others which we shall have to observe, much beyond the reach of our faculties to comprehend. How the mere privation of part should cause a fresh production, is not indeed easy to understand. The organization of an offspring should, in this case, almost seem a voluntary act of the female; but, in what manner it is done, we are not only ignorant at present, but shall most probably ever remain so. *Noxious animals* in general multiply slowly; and whenever we find an unusual increase of such, we generally discover that something has been given by Providence for the purpose of destroying and counterbalancing them. Many species devour each other; and multitudes which might otherwise, by their numbers, become of serious injury to mankind, afford food to other

creatures. The insect tribes increase with astonishing rapidity. The issue of some of them amount to more than two thousand in a year; and, were these not destroyed by innumerable enemies, they would soon fill the air, and in the end would occasion the destruction of the whole animal and vegetable creation.

The *offspring* of every animal, with regard to number, bears a certain proportion to the duration of its life. The Elephant lives to the age of a hundred years or upward: the female consequently produces but a single young one at a birth, and this does not arrive at maturity till it is sixteen or eighteen years old. Nearly the same may be remarked of the Rhinoceros, and of all the larger animals: but in most of the smaller ones, whose lives are short, or whose increase is not so injurious to man as the increase of these would be, we always find the number of offspring to be much greater. No species has ever been found to increase so much as to annihilate the others; and this singular harmony and just proportion has now been supported for several thousand years. "One generation passeth away, and another succeedeth," but all so equally as to balance the stock in all ages and in all countries.

In the *Vegetable Creation* we observe the same regularity as in Animals. There is scarcely a vegetable of any kind that is not rejected as food by some animals, and ardently desired by others. Numerous also are the plants which, at the same time that they afford only the natural nourishment to some, are, by others, cautiously shunned, as poisonous and destructive. All this has been contrived, by the Author of Nature, for the best and wisest purposes.

Every species of animal is admirably calculated for the *climate* in which it resides, and for its own peculiar mode of life. In the dreary northern regions, the dark animals become white, to evade, by their resemblance to the prevailing colour of the country, the quick sight of their enemies. Their clothing, also, during winter, becomes nearly double what it is in the summer: In torrid climates the Sheep, as it is stated,

loses his fleece, and is covered with hair. The Camel, that traverses the burning sands of the deserts, is formed with soft, spongy feet, which the heat cannot crack: it has a reservoir of water, which enables it to resist for many days the attacks of thirst, in a country where water is not to be had; and it is contented with browsing on such miserable food as is to be met with in its progress. Innumerable other instances might be mentioned; but these are reserved for the body of the work.

In vegetables, we observe similar marks of superintendence. Some are alpine, and can exist only on the summits of mountains; some grow in marshes; others on the plains, &c. and each of these is exactly adapted to its peculiar situation. The plants of the desert are nearly all succulent, and able to bear the privation of moisture for an astonishing length of time. Those that are found on the sea-shore could not, in many instances, be retained in their situation, did not their roots become so matted among the sand, or strike so deeply down, as to render them immovable by all the shocks they sustain either from the wind or water. It is also a remarkable circumstance, that Evergreens grow principally in the hottest climates, where they afford a natural shelter to the various animals, from the excessive heats to which they would otherwise be exposed.

If we attend to the contrivances of Providence for the preservation of animals during the winter of cold climates, we shall have an additional source of admiration. Most of those which feed on insects, either emigrate to other countries, or become torpid. Insects themselves, unable to bear the extreme cold, generally lie hidden within their cases, from which, at the approach of Spring, they burst, and fly forth. Some animals, as the Beaver, Squirrels, &c. that feed on such vegetables as can be preserved through the winter, do not sleep, but live in their retreats on those provisions which their Creator has instructed them how to store up in the summer.

The preservation of the offspring of all animals is not less wonderful than this. Quadrupeds are furnished with certain receptacles, in which is secreted a fluid called milk. With this their young ones are nourished, till their stomachs are able to bear, and their teeth to chew, more solid food. As Birds are destitute of this species of nutriment, their offspring are able, as soon as hatched, to take into their stomachs such food as the parents collect for them; and the insect tribes are generally brought to life in a nidus that itself affords them nourishment.

It is also deserving of remark, that birds of the same species always form their *nests* of similar materials, laid in the same order, and exactly of the same figure; so that, whenever a nest is seen, the bird that constructed it is immediately known. This is invariable in all birds and in all countries; with those taken, when just hatched, from the nest, and brought up in a cage, as well as with those that have all their lives been in a wild state.

From the animal we will once again turn to the vegetable kingdom, for the purpose of examining the contrivances of Nature there. If we look around us, we shall find it a difficult matter to discover an entirely barren spot. If, by any devastation such be made, it does not long remain unoccupied. Seeds are soon scattered over it; the downy seeds of the thistles, wafted by the winds, are the first to take root, and after these come the germs of various other plants, till at length the whole space is filled. If a rock be left entirely bare by the receding of water, the minute crustaceous Lichens in a few years entirely cover it. These, dying, turn to earth, and the imbricated Lichens now have a bed to strike their roots into. These also die, and various species of Mosses succeed; and when, after some time, a sufficiency of mould has been formed, the larger plants, and even shrubs, take root and live.

The *quickness of vegetation* both in hot and cold climates is so

astonishing, as to be perfectly unaccountable, were we not able to refer it to a most exalted wisdom.

The following is the Calendar of a Siberian or Lapland Year.

- June 23. Snow melts.
- July 1. Snow gone.
- 9. Fields quite green.
- 17. Plants at full growth.
- 25. Plants in flower.
- August 2. Fruits ripe.
- 10. Plants shed their seed.
- 18. Snow.

From August 18, to June 23, Snow and Ice.

Thus it appears that, only a month elapses from the time when the plants first emerge from the ground to the ripening of their seeds; and that Spring, Summer, and Autumn, are crowded into the short space of forty-six days.

Again, in the torrid climates, where a scorching heat prevails through the greatest part of the year, we have a similar wonderful contrivance. In India, when the wet season commences, the rain falls in such abundance, that, in the course of a few hours, ponds of considerable depth are formed in every hollow place, in many of which there had not for several preceding months, been the least appearance of vegetation or even of moisture. No sooner, however, does the rain begin to fall, than vegetation commences; and, in less than twenty-four hours, the appearance of verdure can be distinctly perceived, whichever way the eye is directed. But the most surprising circumstance is, that very shortly after this verdure begins to appear, these newly-formed ponds are found swarming with fish of such size as to admit of being taken with nets, and to afford food for man. This circumstance is related by Dr. Anderson, on the authority of a very respectable person of Bombay, and was not stated until the fullest enquiries had been made, and the most satisfactory evidence had appeared respecting it.

Thus does the uniform voice of Nature exclaim aloud,

that "the merciful and gracious Lord hath so done his marvellous works, that they ought to be had in remembrance." The whole material system throughout heaven and earth, presents a varied scene rich in use and beauty, in which nothing is lost, and in which the meanest and minutest creatures have their full designation and importance.—"Thus saith the Lord, thy Redeemer, and he that formed thee from the womb, I am the Lord, who maketh all things, who stretcheth forth the heavens along, and spreadeth abroad the earth by myself."

From the preceding observations, it appears that Natural History is capable of yielding to us innumerable subjects for both moral and religious study. Its chief tendency ought to be, to lead us, from the admiration of the works, to the contemplation of their Author; to teach us to look, through Nature, up to Nature's God. It is a study which terminates in the conviction, the knowledge, and the adoration of that gracious and merciful Being, to whose goodness alone we are indebted for every happiness that we enjoy.

These are thy glorious works, Parent of Good,
Almighty! Thine this universal frame,
Thus wondrous fair; thyself how wondrous then!
Unspeakable, who sitt'st above these heav'ns,
To us invisible, or dimly seen
In these thy lowest works; yet these declare
Thy goodness beyond thought, and power divine!

ON THE
STRUCTURE AND FUNCTIONS
OF
ANIMALS IN GENERAL.

MAMMIFEROUS ANIMALS.

(*Quadrupeds and Whales.*)

THE class of animals denominated by Linnæus, **MAMMALIA**, comprehends all those which nourish their offspring with milk supplied from their own bodies, and which have, flowing in their veins, a warm and red blood. It includes the *whales*, which from their external shape and habits of life, might be considered as fish. These inhabit exclusively the water, an element in which none of the quadrupeds can long subsist; and they are furnished, like the fish, with fins: but, in every essential characteristic, they exhibit an alliance to the quadrupeds. Like the quadrupeds they have warm blood, produce their offspring alive, and nourish them with milk furnished from teats. In their internal structure they are, likewise, in a great measure, allied to the quadrupeds.

The bodies of nearly all the mammiferous animals are covered with *hair*, a soft and warm clothing, liable to little injury, and bestowed in quantity proportioned to the necessities of the animals, and the climates which they inhabit. In most of the aquatic quadrupeds this covering, from its too free absorption of moisture, is wanting.

The *head*, in all the higher orders, is the seat of the principal organs of sense, the mouth, the nose, the eyes, and the ears. It is through the *mouth* that they receive their nourishment. This contains the *teeth*, which, in most of the *Mammalia*, are used not only for the mastication of food, but as weapons of offence. They are inserted into two moveable bones called jaws. The front teeth, the office of which is to cut, are wedge-shaped, and so placed that, in action, their sharp edges are brought into contact, and thus divide the aliment. Next to the front teeth, on each side, are the canine teeth or tusks. These are longer than the other teeth, conical and pointed; and their use is to tear the food.—The teeth at the back of the jaw, between which the food is masticated, are called grinders. In animals which live on vegetables, these are flattened at the top; but in carnivorous animals, their upper surfaces are furnished with sharp and conically-pointed protuberances. From the numbers, form, and disposition of the teeth, the various genera of quadrupeds have been arranged.

The *nose* is a cartilaginous body, pierced with two holes called nostrils. In some animals this is prominent, in others flat, compressed, turned upward, or bent downward. In beasts of prey it is often either longer than the lips, or of equal length with them. In a few animals it is elongated into a moveable trunk or proboscis; and in one tribe, the *Rhinoceros*, is armed with a horn.

The *eyes* of quadrupeds are, for the most part, defended by moveable eyelids, the outer margins of which are furnished with hairs, called eye-lashes. The opening of the pupil is in general circular; but in some animals, as *Cats* and *Hares*, it is contracted into a perpendicular line; and in *Oxen*, *Horses*, and a few others, it forms a transverse bar. The opening contracts during the day, in order that the very sensible retina may not be irritated by the rays of light; and, on the contrary, is expanded in the dark, to allow as many rays to pass as possible.

The *ears* are openings generally accompanied by a cartilage

which defends and covers them, called the external ears. In aquatic animals the latter are wanting, as, in them, the sounds are transmitted merely through orifices in the head, which have the name of *auditory holes*. The most defenceless animals are very delicate in their sense of hearing, as are likewise most of the beasts of prey. In wild animals the ears are erect and somewhat funnel-shaped, capable of having their opening turned towards the quarter from which the sounds proceed; but in those that are tame and domestic, the ears are, for the most part, long and pendulous.

The head is joined to the body by the neck; and all those animals that often extend their arms or anterior feet forward, either to seize upon objects, as the Monkeys, or to fly, as the Bats, have, annexed to the upper part of the thorax, *clavicles* or collar-bones. The clavicle of the Mole is particularly remarkable, on account of its thickness, which exceeds its length. The collar-bones are wanting in such animals as use their anterior extremities for progressive motion only.

Most of the Mammiferous Animals walk on four feet. These are usually divided at the extremities into toes or fingers; but the extremities of some, as those of the Horse, end in a single corneous substance, called a hoof. The toes of a few of the quadrupeds terminate in broad flat nails, and of most of the others in pointed claws. Sometimes the toes are connected together by a membrane: this is the case in animals that reside much in the water. Sometimes, as in the Bats, the digitations of the anterior feet are greatly elongated, and have their intervening space filled by a membrane which extends round the hinder legs and the tail, and by means of which they are enabled to rise into the air.

Man, and a certain number of animals, are capable of seizing objects, by surrounding and grasping them with their fingers. For this purpose the fingers are separate, free, flexible, and of considerable length. Man has such fingers on his hands only; but Apes and Lemurs have them both on their hands and feet.

With regard to the *internal structure* of Quadrupeds: that warm and red fluid which is called blood, flows through the body, from the heart, its common reservoir, by a series of vessels called arteries, and returns by another series, denominated veins. During the circulation, various fluids are separated from the blood, and are carried through little vessels to be lodged in proper reservoirs. These fluids, which are termed *secretions*, are adapted to various purposes in the system.

The *lungs* of Mammiferous Animals consist of two lobes, and are placed within the thorax or chest. Into these the atmospheric air is inspired from the mouth; and in them the vital air and the matter of heat are separated: the former, containing the only principle proper for the maintenance of life, and the latter being necessary towards keeping up the fluidity of the blood. The mephitic air, which remains after the separation, is expired. This act of drawing in the atmospheric air, separating the vital air and matter of heat, and ejecting the mephitic air, is termed respiration.

In *digestion* it is that the juices calculated to nourish and support the body become separated from the other, less useful, parts of the food. Reduced to a pulp, by means of the teeth and saliva, these pass through a canal which terminates in a large bag or reservoir, called the stomach. Here the aliment, penetrated and further dissolved by new juices, undergoes a trituration, or kind of grinding, from the action of the stomach; and the nutritive juices, which, on their union, are denominated *chyle*, are separated. These juices are taken up by little vessels called *lacteals*, and become converted into new blood and flesh. The alimentary canal again contracts on leaving the stomach, and, arranged in a great variety of folds, acquires the name of intestines. The residue of what is not converted into *chyle* traverses these numerous sinuosities, and at last is expelled the body.

The bodies of all Mammiferous Animals are supported by a frame of bones called a *skeleton*. To these bones are attached the *muscles* or flesh, assemblages of fibres held together by

membranes, and terminating in a kind of cords, which are denominated *tendons*. The muscles, when excited, produce motion in the different parts of the body; and it is their action which gives to all animals the power of changing their place, and performing the various movements that are necessary to their wants.

The sensation of animals arises from an irritation taking place on the ends of certain chords called *nerves*. These are either prolonged from the spinal marrow, or they are united in pairs in the brain.

Of Cetaceous Animals, as distinct from the Quadrupeds.

The Cetaceous Animals constitute the seventh Order of Mammalia. They inhabit chiefly the seas of the polar regions; yet, like the quadrupeds, they breathe air by means of true lungs. They are consequently compelled to rise to the surface of the water to respire; and on this account it is that they always sleep on the surface. Their nostrils are open, and terminate on the summit of the head: this peculiarity of structure enables them to draw in air without raising their mouth out of the water. The nostrils also serve them as canals for expelling the superfluous water which they take in at the mouth every time they attempt to swallow their prey. They have also warm, red blood; and they produce and suckle their offspring in the same manner as the quadrupeds. They likewise resemble them in having moveable eye-lids, and true bones; and in their power of uttering loud and bellowing sounds, a faculty altogether denied to the scaly tribes.

The Cetaceous animals have a smooth skin, not covered with hair. Their feet are very short; those on the fore part of the body being formed like fins, and the hinder ones being united into an horizontal tail.

The fat of these animals is what we term blubber. It does not coagulate in our atmosphere, and is probably the most fluid of all animal fats. It is found principally on the outside

of the muscles, immediately under the skin, and is in considerable quantity. The blubber appears principally to be of use in warming their bodies: it also prevents the immediate contact of the water with the flesh, the continued cold of which might chill the blood; and, in this respect, it serves a purpose similar to that of clothing to the human race.

It is probable that the Cete swallow all their food whole, for they are not furnished with instruments capable either of dividing or masticating it. In place of teeth, the mouths of some of the whales are supplied with laminae of horn called *whalebone*.

This substance is attached to the interior part of the upper jaw, is extremely elastic, and consists of thin plates of considerable length and breadth, placed in several rows, encompassing the outer skirts of the upper jaw, like teeth in other animals. The laminae are parallel to each other, having one edge towards the circumference of the mouth, and the other towards the interior. The outer row is composed of the longest plates, some being fourteen or fifteen feet in length, and twelve or fifteen inches broad: but towards the anterior and posterior parts of the mouth they gradually become very short.—The whalebone is supposed to be principally of use in the retention of food till swallowed: for, as the fish, and other marine animals, which the whales catch, are very minute when compared with the size of their mouth, a quantity sufficient for their nutriment, without some such guard as this, could scarcely be retained.

From these animals being resident entirely in the water, and generally far removed from the haunts of man, we cannot be supposed to have acquired any very correct knowledge of their manners or habits of life: even their species are but imperfectly known.

The Mammiferous Animals have been divided by Linnæus into seven orders.

I. *Primates*, which have four front teeth in each jaw; and

one canine tooth on each side in both jaws. The principal animals of this order are the Apes, Lemurs, and Bats.

2. *Bruta*. These are entirely destitute of front-teeth. The tribe consists of the Sloths, Ant-eaters, Rhinoceros, Elephant, and Manati.

3. *Fera*. The *Ferae* have generally six front-teeth in each jaw; and one canine-tooth on each side, in both jaws. They consist of Seals, Dogs, Cats, Weasels, Otters, Bears, Kangaroos, Moles, Shrews, and Urchins.

4. *Glires*. The animals denominated Glires have two long front-teeth in each jaw; and no canine-teeth. They consist of the Porcupines, Cavies, Beavers, Rats, Marmots, Squirrels, Dormice, Jerboas, Hares, and Hyraxes.

5. *Pecora*. The Pecora are destitute of front-teeth in the upper-jaw, and on their feet have cloven hoofs. All the species ruminates or chew their cud. The tribes are the Camel, Musk, Deer, Giraffe, Antelope, Goat, Sheep, and Ox.

6. *Belluae*. These have obtuse front-teeth in each jaw, and undivided hoofs on their feet; and consist of the Horses, Hippopotamus, Tapir, and Hogs.

7. *Cete* or *Whales*. Instead of feet, the Cete, which comprise the Narwal, Whale, Cachalot, and Dolphin tribes, have fins. On the front and upper part of the skull there are spiracles or breathing holes. The teeth differ in the different species; and the tail is flattened horizontally. They are inhabitants only of the sea.

BIRDS.

There is no division of the animal world in which we are more led to admire the wisdom of the Supreme Being, than in the different feathered tribes. Their structure and habits of life are wonderfully fitted for the various functions they have to perform. Their bodies are clad with feathers, which form an envelope much lighter than hair. These lie over each other close to the body, like the tiles of a house; and are arranged from the fore-part backward, by which means the

animals are enabled the more conveniently to cut their way through the air. For this purpose also the head is small and the bill somewhat wedge-shaped : the neck is long, and easily moveable in all directions ; and the body slender, sharp on the under side, and flat or round on the back. The bones likewise are hollow, and very light comparatively with those of terrestrial animals. For the purpose of giving warmth to the body, a short and soft down fills up all the vacant spaces between the shafts of the feathers.

Birds are enabled to rise into and move from place to place in the air, by means of the members that are denominated *wings*. The muscles by which the wings are moved are exceedingly large ; and have been estimated, in some instances, to constitute not less than a sixth part of the weight of the whole body. When a bird is on the ground, and intends to fly, he takes a leap, stretches his wings from the body, and strikes them downward with great force. By this stroke the body is thrown into an oblique position. That part of the force which tended upwards is destroyed by the weight of the bird ; and the horizontal force serves to carry him forward. The stroke being completed, he moves up his wings. These being contracted, and having their edges turned upward, meet with little resistance from the air. When they are sufficiently elevated, the bird makes a second stroke downwards, and the impulse of the air again moves him forward. These successive strokes act as so many leaps taken in air. When the bird wants to turn to the right or left, he strikes strongly with the opposite wing, and this impels him to the proper side. The tail acts like the rudder of a ship ; except that it moves him upward or downward, instead of sideways. If the bird wants to rise, he raises his tail ; and if to fall, he depresses it : whilst he is in an horizontal position, it keeps him steady.

A bird, by spreading his wings, can continue to move horizontally in the air for some time, without striking them ; because he has acquired a sufficient velocity, and his wings, being parallel to the horizon, meet with but little resistance.

When he begins to fall; he can easily steer himself upward by his tail, till the motion he had acquired is nearly spent; he must then renew it by two or three more strokes of his wings. On alighting, he expands his wings and tail full against the air, that they may meet with all the resistance possible.

The centre of gravity in birds is somewhat behind the wings; and, to counterbalance this, most of them may be observed to thrust out their head and neck in flying. This is very apparent in the flight of Ducks, Geese, and several other species of water-fowl, whose centre of gravity is further backward than in the land birds. In the Heron, on the contrary, whose long head and neck, although folded up in flight, overbalance the rest of the body, the long legs are extended, in order to give the proper counterpoise, and to supply what is wanting from the shortness of the tail.

The *feathers* of birds would perpetually imbibe the moisture of the atmosphere; and, during rain, would absorb so much wet, as to impede their flight, had not the wisdom of Providence obviated this inconvenience by a most effectual expedient. They are each furnished on the rump with two glands, in which a quantity of unctuous matter is constantly secreting. This is occasionally pressed out by the bill, and used for the lubrication of the feathers. The birds that share, as it were, the habitations of man, and live principally under cover, do not require so great a supply, and therefore are not provided with so large a stock of this fluid, as those that rove abroad, and reside in the open element. It is on this account that poultry, when wet, make the ruffled and uncomfortable appearance that we observe.

As birds are continually passing among the hedges and thickets, their *eyes* are defended from injury by a membrane, which can at pleasure be drawn over the whole eye like a curtain. This is neither opaque nor wholly pellucid, but is somewhat transparent. In Birds we find that the *sight* is much more piercing, extensive, and exact, than in the other orders of animals. The *eye* is large in proportion to the bulk of the

head. This is a superiority conferred upon them not without a corresponding utility; it seems even indispensable to their safety and subsistence. Were this organ dull, or were it, in the least degree, opaque, the rapidity of their motion would expose them to the danger of striking against various objects in their flight. In this case their celerity, instead of being an advantage, would become an evil, and their flight would be restrained by the danger resulting from it. Indeed, we may consider the velocity with which an animal moves, as a sure indication of the perfection of its vision.

Birds *respire* by means of air-vessels, that are extended through their whole body, and adhere to the under surface of the bones. These, by their motion, force the air through the true lungs, which are very small, seated in the uppermost part of the chest, and closely braced down to the back and ribs. The use of this general diffusion of air through the bodies of birds, is to prevent their respiration from being stopped or interrupted by the rapidity of their motion through a resisting medium. The resistance of the air increases in proportion to the celerity of the motion; and were it possible for a man to move with swiftness equal to that of a Swallow, the resistance of the air, as he is not furnished with reservoirs similar to those of birds, would soon suffocate him.

Some species of birds are confined to particular countries; others are widely dispersed; and several change their abode at certain seasons of the year, and *migrate* to climates better suited to their temperament or mode of life, than those which they leave. Many of the birds of our own island, directed by a peculiar and unerring instinct, retire, before the commencement of the cold season, to the southern districts of Africa, and again return in the spring. The causes usually assigned for migration are, either a defect of food, or the want of a secure and proper asylum for incubation, and the nutrition of their offspring.

The following is a table of the migration of several of the

British Birds, taken on the average of about twenty-six years.

		<i>First seen.</i>	<i>Last seen.</i>
Swallow	<i>Hirundo rustica</i>	April 18	Oct. 31
Martin	<i>Hirundo urtica</i>	March 4	Oct. 16
Sand Martin	<i>Hirundo riparia</i>	March 26	Sept. 12
Swift	<i>Hirundo apus</i>	May 9	Sept. 3
Goatsucker	<i>Caprimulgus Europæus</i>		Sept. 27
Turtle Dove	<i>Columba turtur</i>	June 5	Aug. 10
Wry-neck	<i>Yunx torquilla</i>	March 26	Sept.
Cuckoo	<i>Cuculus canorus</i>	May 1	Aug. 10
Nightingale	<i>Motacilla lucinia</i>	April 25	Sept. 20
Blackcap	<i>Motacilla atricapilla</i>	May 10	Sept. 18
White-throat	<i>Motacilla sylvia</i>	April 22	Sept. 16
Wheat-ear	<i>Motacilla cenanthe</i>	May 4	Sept. 26
Whinchat	<i>Motacilla rubetra</i>	June 1	Sept. 21
Redstart	<i>Motacilla phœnicurus</i>	April 24	Sept. 1
Willow-wren	<i>Motacilla trochilus</i>	April 23	Sept. 24
Fly-catcher	<i>Muscicapa grisola</i>	May 8	Sept. 30
Red-backed Shrike	<i>Lanius collurio</i>	June 1	Aug. 16
Land-rail	<i>Rallus crex</i>		Oct. 20
Quail	<i>Tetræo coturnux</i>	Aug. 20	
Fieldfare	<i>Turdus pilaris</i>	Nov. 21	April 10
Red-wing	<i>Turdus iliacus</i>	Nov. 10	Mar. 18
Woodcock	<i>Scolopax rusticola</i>	Oct. 20	April 1
Snipe	<i>Scolopax gallinago</i>	Nov. 20	Mar. 20
Jack Snipe	<i>Scolopax gallinula</i>	Dec. 26	Mar. 16
Sea Lark	<i>Charadrius hiaticula</i>	April 1	
Greater Tern	<i>Sterna hirundo</i>	April 1	Oct. 8
Lesser Tern	<i>Sterna minuta</i>	May 20	Oct. 16
Royston Crow	<i>Corvus cornix</i>	May 22	Mar. 26

It appears from very accurate observations, founded on numerous experiments, that the peculiar notes, or *song*, of the different species of Birds, are acquired, and are no more innate than language is in man. The attempt of a nestling bird to sing, may be compared with the imperfect endeavour of a child to talk. The first essay seems not to possess the slightest rudiments of the future song; but, as the bird grows older, and stronger, it is not difficult to perceive what he is attempting. Whilst the scholar is thus endeavouring to form his song, when he is once sure of a passage, he commonly raises

his tone ; but when unable to execute the passage, he drops it. What the nestling is thus not thoroughly master of, he hurries over ; lowering his tone, as if he did not wish to be heard, and as if he could not yet satisfy himself. A common Sparrow, taken from the nest when very young, and placed near a Linnet and Goldfinch, adopted a song that was a mixture of the notes of these two. Three nestling Linnets were educated, one under a Sky-lark, another under a Wood-lark, and the third under a Tit-lark ; and, instead of the song peculiar to their own species, they adhered entirely to that of their respective instructors. A Linnet, taken from the nest when about three days old, and brought up in the house of Mr Mathews, an apothecary, at Kensington, having no other sounds to imitate, almost articulated the words " pretty boy ;" and a few other short sentences. The owner of this bird said, that it had neither the note nor the call of any bird whatever. It died in the year 1772.

These, and other well-authenticated facts, tend to prove that Birds have no innate notes, but that, like mankind, the language they first learn after they come into the world, is generally that which they adopt in after life. It may, however, seem unaccountable, why, in a wild state, they adhere so steadily as they do to the song of their own species only, when the notes of so many others are to be heard around them. This evidently arises from the attention that is paid by the nestling bird to the instructions of its own parent only, and its generally disregarding the notes of all the rest. Persons, however, who have an accurate ear, and have studied the notes of Birds, {can very often distinguish some that have a song mixed with the notes of other species.

The following is a table of the comparative merits of the singing birds of our own island. In this the number 20 is adopted as the point of perfection.

	Mel- lown- ess of Tone.	Spright- ness.	Plain- ness.	Compass.	Ere- ction.
Nightingale	19	14	19	19	19
Sky-lark	4	19	4	18	18
Wood-lark	18	4	17	12	8
Tit-lark	12	12	12	12	12
Linnet	12	16	12	16	18
Goldfinch	4	19	4	12	12
Chaffinch	4	12	4	8	8
Greenfinch	4	4	4	4	6
Hedge-Sparrow	6	0	6	4	4
Aberdavine, or Siskin	2	4	0	4	4
Red-poll	0	4	0	4	4
Thrush	4	4	4	4	4
Blackbird	4	4	0	2	2
Robin	6	16	12	12	12
Wren	0	12	0	4	4
Reed-sparrow	0	4	0	2	2
Black-cap	14	12	12	14	14

The *food* of Birds is of course very different in the different kinds. Some are altogether carnivorous; others, as many of the web-footed tribes, live on fish; some on insects and worms, and many on fruits or grain. The extraordinary powers of the gizzard in the granivorous tribes, in comminuting their hard food, so as to prepare it for digestion, are such as almost to exceed credibility. In order to ascertain the strength of these stomachs, the Abbé Spallanzani made many cruel, though at the same time curious and not uninteresting experiments. Tin tubes full of grain were forced into the stomachs of Turkeys; and, after remaining twenty hours, were found to be broken, compressed, and distorted in a most irregular manner. The stomach of a Cock, in the space of twenty-four hours, broke off the angles of a piece of rough, jagged glass; and, on examining the gizzard, no wound or laceration appeared. Twelve strong tin needles were firmly fixed into a ball of lead, with their points projecting about a quarter of an inch from the surface; thus armed, it was covered with a case of paper, and

forced down the throat of a Turkey. The bird retained it a day and a half without exhibiting the least symptom of uneasiness. When the Turkey was killed, the points of nearly all the needles were found to be broken off close to the surface of the ball. Twelve small lancets, very sharp both at the points and edges, were fixed in a similar ball of lead. These were given in the same manner, to a Turkey-cock, and left eight hours in the stomach; at the expiration of which time that organ was opened, but nothing appeared except the naked ball; the twelve lancets having been all broken to pieces. From these facts it was concluded, that the stones so often found in the stomachs of many of the feathered tribes, are highly useful in assisting the gastric juices to grind down the grain and other hard substances which constitute their food. The stones themselves, also, being ground down and separated by the powerful action of the gizzard, are mixed with the food, and no doubt contribute to the health as well as to the nutriment of the animals.

All Birds are oviparous, or produce *eggs*, from which, after the process of incubation, the young are extruded. These eggs differ in the different species, in number, figure, and colour. They contain the rudiments of the future offspring; for the maturation and bringing to perfection of which, in the incubation, there is a bubble of air at the large end, betwixt the shell and the inside skin. It is supposed that, from the warmth communicated by the sitting Bird to this confined air, its spring is increased beyond its natural tenor, and, at the same time, its parts are put into motion by the gentle rarefaction. Hence pressure and motion are communicated to the parts of the egg; and these, in some unknown manner, gradually promote the formation and growth of the young one, till the appointed time of its exclusion. The use of that part of the egg called the treddle, is not only to retain the different liquids in their proper places, but also to keep the same part of the yolk uppermost; which it will effectually do, though the egg be turned nearly every way. The mechanism seems to be

this: the treddle is specifically lighter than the white in which it swims; and being connected with the membranes of the yolk, at a point somewhat out of the direction of its axis, this causes one side to become heavier than the other. Thus the yolk, being made buoyant in the midst of the white, is, by its own heavy side, kept with the same part always uppermost.

The nests of Birds are, in general, constructed with astonishing art; and with a degree of architectural skill and propriety, that would foil all the boasted talents of man to imitate.

Mark it well, within, without:

No tool had he that wrought; no knife to cut,
No nail to fix, no bodkin to insert,
No glue to join; his little beak was all.
And yet, how neatly finish'd! What nice hand,
With every implement and means of art,
And twenty years' apprenticeship to boot,
Could make me such another! Fondly then
We boast of excellence, whose noblest skill
Instinctive genius foils.

In most of the species both the male and female assist in this interesting operation. They each bring materials to the place: first sticks, moss, or straws, for the foundation and exterior: then hair, wool, or the down of animals or plants, to form a soft and commodious bed for the eggs, and for the bodies of their tender young, when hatched. The outsides of the nests bear in general so great a resemblance in colour to the surrounding foliage or branches, as not easily to be discovered even by persons who are in search of them.

This is one of those numerous and wonderful contrivances which compel us to believe that every part of the creation is under the protection of a superintending Being, whose goodness knows no bounds. Without this, what can we suppose it is that instigates a creature which may never before have had young, to form a nest, hollow, for the purpose of containing

eggs; (things that as yet it knows nothing of;) and of concentrating a necessary proportion of heat for the incubation? Without this, what can we suppose it is that dictates the necessity of forming the outside of this nest with coarse materials, as a foundation, and of lining its interior with more delicate substances? How do these animals learn that they are to have eggs, and that these eggs will require a nest of a certain size and capacity? Who is it that teaches them to calculate the time with such exactness, that they never lay their eggs before the receptacle for them is finished? No one can surely be so blind as to observe all this, and not to perceive the superintendence of a beneficent wisdom influencing every operation.

The *classification* of birds is principally founded on their habits of life; and on the formation of their external parts, particularly of their bills. The grand division is into LAND BIRDS and WATER BIRDS.

Land Birds.

1. *Rapacious Birds (accipitres)*, have their bill hooked; and on each side of the upper mandible there is an angular projection. They consist of Vultures, Eagles or Hawks, and Owls. These birds are all carnivorous, and associate in pairs; and the female is generally larger and stronger than the male.

2. *Pies (picæ)*. These have their bills sharp at the edge, compressed at the sides, and convex on the upper surface. The principal genera are Shrikes, Crows, Rollers, Orioles, Grackles, Humming-birds, Parrots, Toucans, Cuckoos, Woodpeckers, Hornbills, and Kingfishers. Some of them associate in pairs, and others congregate. They live on various kinds of food; and usually build their nests in trees, the male feeding the female during the process of incubation.

3. *Passerine Birds (passeres)*, have a conical, sharp-pointed bill. To this order belong the Finches, Grosbeaks, Buntings, Thrushes, Fly-catchers, Swallows, Larks, Wagtails, Titmice, and Pigeons. While breeding they live chiefly in pairs; and the nests of several of the species are of curious and singular construction. The greater number of them sing. Some of them subsist on seeds, and others on insects.

4. *Gallinaceous Birds (gallinæ)*. The bills of these birds have the upper mandible considerably arched. Pheasants, Turkeys, Peacocks, Bustards, Pintadoes, and Grouse, all belong to this order. They live principally on the ground; and scratch the earth with their feet for the purpose of finding grain and seeds. They usually associate in families, consisting of one male and several females. Their nests are artlessly formed on the ground; and the females produce a numerous offspring.

Water Birds.

5. *Waders (grallæ)*. These have a roundish bill, and a fleshy tongue; and the legs of most of the species are long. The principal genera are the Herons, Plovers, Snipes, and Sandpipers, which live for the most part among marshes and fens, and feed on worms and other animal productions. They form nests on the ground.

6. *Swimmers (anseres)*. The bills of these birds are broad at the top, and covered with a membranaceous skin. The tribes best known are the Ducks, Auks, Penguins, Petrels, Pelicans, Guillemots, Gulls, and Terns. They live chiefly in the water, and feed on fish, worms, and aquatic plants. Most of the species are polygamous, and construct their nests among reeds or in moist places. The females lay many eggs.

AMPHIBIOUS ANIMALS.

Under this title, from the circumstance of their living occasionally both on land and in water, Linnæus has arranged the oviparous quadrupeds, usually denominated *Reptiles*, and the *Serpents*. It may be considered exceptionable, on account of some individuals being confined to only one of those elements; but these are so few, as not to affect the general denomination.

The amphibious animals have ever excited in mankind a great degree of abhorrence, originating in a dread of their supposed, and, in some instances, of their undoubtedly poisonous qualities; in the unpleasant sensation of touching perfectly cold animals, and in their often ugly and squalid forms. This abhorrence is so general, in all countries, and among all people, that, even where the species are in themselves innoxious and beautiful, it is not to be conquered without difficulty. To the philosopher, however, the various tribes afford an inexhaustible fund of instruction and delight. The form, the destination, and the importance of these animals in the grand scheme of nature, are truly admirable, and have been found amply to repay the care, the danger, and the trouble, which have attended the investigation of them.

By far the greater number of the species live in retired, watery, and shady places, where they seem stationed to prevent the excessive multiplication of water-animals and insects; and themselves, in many instances, to serve as food for fishes and birds. When they are able to obtain it, they generally devour a great quantity of food at a time, but this is digested slowly, and they are endowed with the power of sustaining abstinence that would infallibly prove fatal to any of the higher orders of Animals. Several of the species have been known to exist, in apparent health and vivacity, for many months, without any food whatever. Nearly all the Amphi-

bis are furnished with *teeth*, but these seem of little other use than for seizing and retaining their prey ; 'as all their food is swallowed whole.

Their *respiration* is not, as in the higher animals, carried on at certain short and regular intervals. The Amphibia, from the peculiar structure of their organs of respiration, are able to suspend it almost at pleasure. It is in consequence of this that they are enabled to support their change of element without injury. Their *blood* is red, but cold and in small quantity.

The bodies of some of these animals are protected by a hard and horny shield or covering ; and others by a coriaceous integument. Some of them have scales ; and others soft pustular warts or protuberances. Their *bones* are more cartilaginous than those either of quadrupeds or birds. Several of the species, as the Frogs and some of the Lizards, are altogether destitute of ribs.

The *eyes* of the Amphibia are in general large and bright. The *ears* have neither external valve nor canal ; but the tympanum is level with the head, and, in many of the animals, covered with the skin or scales.

All the Amphibia are extremely tenacious of life, and some of them will continue to move and exert animal functions even destitute of their head or heart. Many of the species possess a high degree of reproductive power ; and, when their feet or tail are by accident destroyed, others will grow in their place. Most of them exhale loathsome odours, owing probably to the foulness of their abode, or the substances on which they feed, or perhaps to the length of time that is occupied in digesting their food.

The young of all the tribes are produced from eggs, which, after the parent animals have deposited them in a proper place, are hatched by the heat of the sun. Some of the species have their eggs covered with a hard, calcareous shell ; whilst those of others have a soft, tough skin or covering, not much unlike wet parchment ; the eggs of several are perfectly gelatinous.

In those few that produce their offspring alive, the eggs are regularly formed, but are hatched within the bodies of the females; this is the case with the Vipers and some others of the Serpents.

In cold and temperate climates, nearly all the Amphibia pass the winter in a torpid state. During this season they are often found perfectly stiff, in holes under ice, or in water. They continue thus till revived by the returning warmth of spring. They then become reanimated, change their skin, and appear abroad in a new coat. Many of them cast their skins frequently in the year; but Tortoises and some other Reptiles have an osseous covering which they do not change.

The Amphibia, though they are occasionally found in great numbers together, cannot be said to congregate, since they do nothing in common, and, in fact, do not live in a state of society. The flesh and eggs of some of the species constitute a palatable and nutritious food.

Of the Serpents. There is much geometrical elegance in the sinuous motion of the Serpent tribe. Their back-bone consists of moveable articulations, and runs through the whole length of their body. The breast and abdomen are surrounded with ribs. Some of the species can render their bodies perfectly stiff, and by this means they are enabled to spring with great force and velocity on their prey.

Most of them are covered with scales; and Linnæus has endeavoured to mark the different species by the number of scaly plates on the abdomen and beneath the tail. Experience, however, has proved, that these are too variable and uncertain to be depended on.

The head is connected to the trunk without the intervention of a neck; and their jaws are so formed that the animals are able to swallow bodies as thick and frequently even thicker than themselves. The tongue is slender and cleft.

The *poisonous* Serpents, which are not more than one sixth of the whole number of species, differ from the others in hav-

ing long tubular fangs on each side of the head, calculated to convey the venom from a bag or receptacle at the base of these fangs into the wound made by their bite. The venomous Serpents have only two rows of true or proper teeth, (that is, such as are not fangs,) in the upper jaw, whilst all others have four. A head entirely covered with small scales is also in some degree a character, but by no means a universal one, of poisonous species; as are also scales on the head and body furnished with a ridge or prominent middle line.

The Amphibia are divided by Linnæus into two orders: viz. Reptiles and Serpents.

The *Reptiles* are furnished with legs. They have flat and naked ears, without auricles. The principal tribes are, Tortoises, Lizards, and Frogs.

Serpents are destitute of feet. Their jaws are dilatable and not articulated; and they have neither fins nor ears.

FISHES.

Were we acquainted with no other animals than those which inhabit the land, and breathe the air of our atmosphere, it would appear absurd to be told that any race of beings could exist only in the water: we should naturally conclude, from the effect produced on our own bodies when plunged into that element, that the powers of life could not there be sustained. But we find, from experience, that the very depths of the ocean are crowded with inhabitants, which, in their construction, modes of life, and general design, are as truly wonderful as those on the land. Their history, however, must always remain imperfect, since the element in which they live is beyond human access, and of such vast dimensions, as to throw by far the greater part of them altogether out of the reach of man.

That they are in every respect, both of external and in-

ternal conformation, well adapted to their element and modes of life, we are not permitted to doubt. The body is, in general, slender, flattened at the sides, and always somewhat pointed at the head. This enables them, with ease, to cut through the resisting medium which they inhabit. Some of them are endowed with such extraordinary powers of progressive motion, that they are able not only to overtake the fastest sailing vessels, but, during the swiftest course of those, to play round them without any apparently extraordinary efforts.

Their bodies are in general covered with a kind of horny scales, to keep them from being injured by the pressure of the water. Several of them are enveloped with a fat and oily substance, to preserve them from putrefaction, and to guard them from extreme cold. They breathe by means of certain organs that are placed on each side of the neck, and called gills. In this operation they fill their mouth with water, which they throw backward, with so much force as to lift open the great flap, and force it out behind. And in the passage of this water, among the feather-like processes of the gills, all, or at least the greatest part, of the air, contained in it, is left behind, and carried into the body to perform its part in the animal economy. In proof of this fact, it has been ascertained that, if the air be extracted from water into which fish are put, they immediately come to the surface and gasp as if for breath. Hence, distilled water is to fish what the vacuum formed by an air-pump is to most other animals. This is the reason why, in winter, when a fish-pond is entirely frozen over, it is necessary to break holes in the ice, not that the fish may come to feed, but that they may come to breathe. Without such precaution, if the pond be small, and the fish be numerous, they will die from the corruption of the water.

Fishes are nearly of the same specific gravity with water, and swim by means of their fins and tail. The muscular force of the latter is very great. Their direct motion is obtained by moving the tail from one side to the other, with a vibrating

motion ; and, by strongly bending the tail sideways, this part of their body acts like the rudder of a ship, and enables them to move in an opposite direction. The fins of a fish keep it upright, especially the belly-fins, which act like feet ; without these it would float with its back downward, as the centre of gravity lies near the back.

In addition to the fins and tail, the *air-bladder* is of material assistance to fish in swimming, as it is by means of this that they increase or diminish the specific gravity of their bodies. When, by their abdominal muscles, they compress the air contained in this bladder, the bulk of their body is diminished, their weight, compared with that of the water, is increased, and they consequently sink. If they want to rise, they relax the pressure of the muscles, the air-bladder again acquires its natural size, the body is rendered more bulky, and they ascend towards the surface. This bladder lies in the abdomen, along the course of the back-bone. In some fish it is single, and in others double. The air appears to be conveyed into it from the blood, by means of vessels appropriated to that purpose, and it can be discharged thence either into the stomach or the mouth. Those fish which are destitute of air-bladders have much less facility in elevating themselves in the water than any others. The greater number of them, consequently, remain at the bottom, unless the form of their body enables them to strike the water downward with great force. Thus the Skate, the Thornback, and other species of *Rays* do with their large pectoral fins, which are of such size and strength as almost to resemble wings ; and the mode in which these fish elevate themselves in the water, is precisely the same as that which is employed by birds in flying.

The *teeth* of fish are usually situated in their jaws : in some species, however, there are teeth on the tongue and palate, and even in the throat. These are generally sharp-pointed and immovable ; but in the Carp they are obtuse, and in the Pike so moveable as to appear fixed only to the skin. The

tongue is in general motionless, obtuse, and fleshy. Being furnished with *nostrils* and olfactory nerves, there can be little doubt that fishes possess the sense of smelling.

The *bones* of these animals are formed of a kind of intermediate substance, between true bones and cartilages. The back-bone extends through the whole length of the body, and consists of *vertebræ*, strong and thick towards the head, but weaker and more slender as they approach the tail. The ribs are attached to the processes of the *vertebræ*, and enclose the breast and abdomen. Several fish, as the Rays, have no ribs; and others, as the Eel and Sturgeon, have very short ones. In many of the species there are small bones between the muscles, to assist their motion.

The *sight* of fishes is perhaps the most perfect of all their senses. The eye, in general, is covered with the same transparent skin that covers the rest of the head; the use of which is, probably, to defend this organ in the water, for none of the species have eyelids. The globe of the eye is somewhat depressed in front, and it is furnished behind with a muscle, which serves to lengthen or flatten it, as the animal may require. The crystalline humour, which in quadrupeds is flattened, is in fishes nearly globular. The eyes of fish are usually thought to be immovable, but this does not appear to be the case: those of some species are known to turn in the sockets.

In fishes the *organ of hearing* is placed at the sides of the skull; but, differing in this respect from that in quadrupeds and birds, it is entirely distinct and detached from it. In some fishes, as those of the Ray kind, the organ of hearing is wholly surrounded by the parts containing the cavity of the skull: in others, as the Salmon and Cod, it is partly within the skull. In its structure this organ is by no means so complicated as in quadrupeds and other animals that live in the air. Some genera, as the Rays, have the external orifice very small, and placed on the upper surface of the head; but in others there is no external opening whatever.

The *food* of these animals is extremely various. Insects, worms, or the spawn of other fish, sustain the smaller tribes; which, in their turn, are pursued by larger foes. Some feed on mud and aquatic plants, but by far the greater number subsist on animal food only, and they are so ravenous as often not to spare even those of their own kind. Innumerable shoals of some species pursue those of others through vast tracts of the ocean: from the vicinity of the pole sometimes even to the equator. In these conflicts, and in this scene of universal rapine, many species must have become extinct, had not the Creator accurately proportioned their means of escape, their production, and their numbers, to the extent and variety of the dangers to which they are exposed. The smaller species are consequently not only more numerous and prolific than the larger, but their instinct impels them to seek for food and protection near the shore, where, from the shallowness of the water, many of their foes are unable to pursue them.

Fishes are in general oviparous: some few, however, produce their offspring alive. The males have the *mit*, and the females the *roe*, but some individuals of the Cod and Sturgeon tribes are said to contain both. The spawn of the greater number is deposited in the sand or gravel: many of the fish, however, which reside in the ocean, attach their ova to seaweeds. The fecundity of these tribes far surpasses that of any other race of animals. In the spawn of a single Cod upwards of nine millions of eggs have been ascertained, and nearly a million and a half have been taken from the interior of a Flounder.

The *longevity* of fish is far superior to that of other creatures; and there is reason to suppose that they are, in a great measure, exempted from diseases. Instead of suffering from the rigidity of age, which is the cause of natural decay in land animals, their bodies continue to increase with fresh supplies; and, as the body grows, the conduits of life seem to furnish their stores in greater abundance. How long these animals continue to live, has not yet been ascertained. The age of

man seems not equal to the life of the most minute species. In the royal ponds at Marli, in France, there are some particular fish which, it is said, have been preserved tame since the time of Francis the First, and which have been individually known to the persons who have succeeded to the charge of them ever since that period.

Fish, like land animals, are either solitary or gregarious. Some, as Trout, Salmon, &c. migrate to considerable distances in order to deposit their spawn. Of the sea-fish, the Cod, the Herring, and many others, assemble in immense shoals, and migrate in these shoals through vast tracts of the ocean.

In the Gmelinian edition of the *Systema Naturæ*, the Fishes are divided into six orders :

1. *Apodal*; with bony gills, and no ventral fins, as the Eels.

2. *Jugular*; with bony gills, and ventral fins before the pectoral ones, as the Cod and Haddock.

3. *Thoracic*; with bony gills and ventral fins placed directly under the thorax, as the Turbot, Sole, Perch, and Mackrel.

4. *Abdominal*; with bony gills, and ventral fins placed behind the thorax, as the Salmon, Pike, Herring, and Carp.

5. *Branchiostegous*; with gills destitute of bony rays, as the Pike-fish and Lump-fish.

6. *Chondropterygious*; with cartilaginous gills, as the Sturgeon, Shark, Skate, and Lamprey.

INSECTS.

The Insect division of the animal world received its name from the individuals of which it is composed having a separation in the middle of their bodies, by which they are cut, as

it were, into two parts. These parts are in general connected by a slender ligament or hollow thread.

Insects *breathe* through pores arranged along their sides*; and have a scaly or bony skin, and many feet. Most of them are furnished with wings. They are destitute of brain, nostrils, and eyelids. Not only the place of the liver, but of all the secretory glands, is, in them, supplied by long vessels that float in the abdomen. The mouth is in general situated under the head; and is furnished with transverse jaws, with lips, a kind of teeth, a tongue, and palate: it has also, in most instances, four or six palpi, or feelers. Insects have also moveable antennæ, which generally proceed from the front part of the head, and are endowed with a very nice sense of feeling.

In a minute examination of this class by Professor Cuvier, neither a heart nor arteries have been detected; and this gentleman says that the whole organization of insects is such as we might have expected to find, if we had previously known that they were destitute of such organs. Their nutrition, therefore, seems to be carried on by absorption, as is the case with the polypes, and other zoophytes†.

Nearly all Insects (except Spiders, and a few others of the apterous tribe, which proceed nearly in a perfect state from the egg) undergo a METAMORPHOSIS, or change, at three different periods of their existence.

The lives of these minute creatures, in their perfect state, are in general so short that the parents have seldom an opportunity of seeing their living offspring. Consequently, they are neither provided with milk, like viviparous animals, nor are they, like birds, impelled to sit upon their eggs in

* The Crab and Lobster tribes form an exception to this rule, for they respire by means of gills.

† He excepts the Crabs and Lobsters, which he arranges in a class by themselves, and denominates Crustaceous animals.

order to bring their offspring to perfection. In place of these, the all-directing Power has endowed each species with the astonishing faculty of being able to discover what substance is fitted to afford the food proper for its young; though such food is, for the most part, totally different from that which the parent itself could eat. Some of them attach their eggs to the bark, or insert them into the leaves of trees and other vegetable substances; others form nests, which they store with insects or caterpillars that will attain the exact state in which they may be proper food for their young ones, when they shall awaken into life; others bury their eggs in the bodies of other insects; and others adopt very surprising methods of conveying them into the body, and even into the internal viscera of larger animals. Some drop their eggs into the water, an element in which they would themselves soon be destroyed. In short, the variety of contrivances that are adopted by insects to ensure the subsistence of their offspring, are beyond enumeration.

From the eggs of all insects proceed what are called *larvæ*, grubs, or caterpillars. These consist of a long body, covered with a soft, tender skin, divided into segments or rings. The motions of many of the *larvæ* are performed on these rings only, either in the manner of serpents, or by resting alternately each segment of the body on the plane which supports it. Such is the motion of the *larvæ* of Flies, emphatically so called, and of Wasps and Bees. Sometimes the surfaces of the rings are covered with spines, stiff bristles, or hooks: this is the case in Gad-flies, Crane-flies, and some others. The bodies of the *larvæ*, in some orders of insects, have, towards the head, six feet, each formed of three small joints; the last of which is scaly, and terminates in a hook: this is usual in those of Beetles and Dragon-flies. The *larvæ* of Butterflies and Moths, besides six scaly articulated feet, have a variable number of other false feet, which are not jointed, but terminate in hooks disposed in circles and semicircles. These hooks, which are attached to the skin by a kind of retractile

tubercles, serve as cramps to assist their motion on other bodies. The larvæ of such insects as undergo only a semi-metamorphosis, as Locusts, Crickets, and Cockroaches, and those of insects that undergo no transformation, as the Spiders, Ticks, and Mites, do not differ, with respect to their feet, from the perfect insects. In this larva state many insects remain for months, others for a year, and some even for two or three years. They are, in general, extremely voracious, oftentimes devouring more than their own weight in the course of twenty-four hours.

As soon as all their parts become perfected, and they are prepared to appear under a new form, called a pupa or *chrysalis**, most species of insects fix upon some convenient place, for the performance of this arduous operation. This is generally a place where they are not exposed to danger; for, in their transformation, they have neither strength to resist, nor swiftness to avoid, the attack of an enemy. That Power which instructed the parents to deposit their eggs in a proper receptacle, directs the offspring in the most secure and appropriate situation for their future defenceless state. Some of them spin webs or cones, in which they enclose themselves; others undergo their change in decayed wood; and others conceal themselves beneath the surface of the earth. Preparatory to the transformation, they cease to take any food, and, for some days, continue in a state of inactivity. During this time the internal organs are gradually unfolding themselves. When the completion is at hand, many of them may be observed alternately to extend and contract their bodies, in order to disengage themselves from the caterpillar skin. The hinder parts are those first liberated: when this is done, the animals contract, and draw the skin up towards their head; and, by strong efforts, they soon afterwards push it entirely off. In their chrysalid state they remain for some time, to

* The chrysalis is occasionally called Aurelia, Bean, or Cocoon.

all appearance, inanimate; but this is only in appearance, for, on being taken into the hand, they will always be found to exhibit signs of life. It is singular that, in the changes of insects, the intestinal canal is frequently very different in the same individuals, as they pass through the three states.

As soon as the animal, within the shell of the chrysalis, has acquired strength sufficient to break the bonds that surround it, it exerts its powers, and appears to the world in a *perfect* state. For a little while it continues humid and weak; but, as the humidity evaporates, its wings and shell become hardened, and it soon afterwards commits itself in safety to its new element.

Some writers have conjectured that the *antennæ* or horns of insects are their organs of hearing; for it is evident, from various experiments, that insects are possessed of this *sense* in a degree as exquisite as most other animals, although, from their minuteness, we perhaps may never discover by what means. The antennæ, however, seem little likely to answer the purpose of ears. These instruments, of apparently exquisite sensibility, appear adapted to very different purposes, but to purposes with which we may remain long unacquainted.

The *eyes* of insects are formed of a transparent crustaceous set of lenses, so hard as to require no coverings to protect them. These, like multiplying glasses, have innumerable surfaces, on every one of which the objects are distinctly formed; so that, if a candle be held opposite to them, it appears multiplied almost to infinity on their surfaces. Other creatures are obliged to turn their eyes; but insects have always some or other of these lenses directed towards objects, from what quarter soever they may present themselves. All these minute hemispheres are real eyes, through which every thing appears topsy turvy.

M. Leeuwenhoek, with the aid of a microscope, used as a telescope, looked through the eye of a Dragon-fly, and viewed

the steeple of a church, which was 299 feet high, and 750 feet from the place where he stood. He could plainly see the steeple, though not apparently larger than the point of a fine needle. He also viewed a house; and could discern the front, distinguish the doors and windows, and perceive whether the windows were open or shut. Mr. Hook computed that there were 14,000 of these lenses in the two eyes of a Drone; and Mr. Leeuwenhoek reckons 12,544 lenses in each eye of the Dragon-fly. The pictures of objects that are delineated on these, must be millions of times less than those formed on the human eye. Many insects still smaller have eyes, so contrived as to discern objects some thousands of times less than themselves; for such the minute particles on which they feed must certainly be.

With respect to the *wings* of insects, those of the two first orders of Linnæus have their wings defended by a pair of hard crustaceous cases called elytra. The three subsequent orders have four membranaceous wings, without elytra. All the insects of the sixth order have but two wings, and under each of these, at its base, there is a poise or balancer like a little knob. These poises are commonly little balls, each placed on the top of a slender stalk, and moveable every way at pleasure. In some they stand alone, but in others, as in the *Flesh-fly* tribe, they have little covers or hollow membranaceous scales, each of which somewhat resembles a spoon without a handle: every time the insect strikes the air with its wings, a very quick motion may be perceived in the balancer; and in the *Flesh-flies*, when this moves, it strikes against the little scale, and thus assists in producing the well-known buzzing sound that is made by flies when on the wing. The use of the poises to an insect seems to be precisely the same as that of a long pole, loaded at each end with lead, to a rope-dancer: they render the body steady, and obviate all its unsteadiness in flight.

The structure of the *feet* of these diminutive creatures is truly admirable. Those insects that live altogether in water

have their feet long, flat, and somewhat hairy at the edges, well adapted to aid their motions in that element. Such as have occasion to burrow into the earth have their legs broad, sharp-edged, and serrated. Those that use their feet only in walking have them long, and cylindrical. Some have their feet furnished with sharp, hooked claws, and skinny palms, by which, from the pressure of the atmosphere upon them, they are enabled to walk on glass and other smooth surfaces, even with their backs downwards. Others have somewhat like sponges that answer the same end; and the spider has each foot armed with a kind of comb, probably for the purpose of separating the six threads that issue from so many orifices of its body, and preventing them from tangling. In insects which have occasionally to pass over spaces by leaping, the thighs of the hind legs are peculiarly large and thick.

The *tongue* of insects is a taper and compact instrument, by which they suck their food. Some of them can contract or expand it; and others, as the Butterflies, roll it up under their head, somewhat like the spring of a watch. In many it is enclosed within a sheath; and in several, as the Flies, it is fleshy and tubular.

The *mouth* is generally placed somewhat underneath the front part of the head; but in a few of the tribes it is situated below the breast. Some insects have it furnished with a kind of forceps, for the purpose of seizing and cutting their prey; and in others it is pointed, to pierce animal or vegetable substances, and suck their juices. In several it is strongly ridged with jaws and teeth, to gnaw and scrape their food, carry burdens, perforate the earth, nay the hardest wood, and even stones, for the habitations and nests of their offspring. In a few the tongue is so short as to appear to us incapable of answering the purpose for which it is formed; and the Gad-flies appear to have no mouth.

Near the mouth are situated the *palpi* or *feelers*: these are generally four, but sometimes six in number. They are a kind of thread-shaped articulated antennæ. Their situation,

beneath and at the sides of the mouth, renders them, however, sufficiently distinct from the proper antennæ. Some writers consider them to be useful in holding food to the mouth, whilst the insects are eating.

Linnaeus has divided the animals of this class into seven orders*, viz.

1. *Coleopterous Insects* (derived from the Greek words *καλος* a sheath, and *πτερον* a wing. These are the *Beetles*, or such as have crustaceous elytra or shells, which shut together, and form a longitudinal suture down the back. Of this order are the Chafer tribes, and several others.

2. *Hemipterous insects* (from *ἡμιος* half, and *πτερον* a wing,) have their upper wings half crustaceous, and half membranaceous, not divided by a longitudinal suture, but incumbent on or crossed over each other; as the Cockroach, Locust, &c.

3. *Lepidopterous insects* (from *λεωις* a scale, and *πτερον* a wing,) are those having four wings covered with fine scales apparently like powder or meal; as the Butterflies and Moths.

4. *Neuropterous insects* (from *νευρον* a nerve, and *πτερον* a wing,) have four membranaceous, transparent, naked wings, in which the membranes cross each other so as to appear like net-work. The tail has no sting, but is sometimes furnished with appendices like pincers, by which the males are distinguished. The common Dragon-fly is the best example that can be brought to illustrate this order; and the genus *Phryganea* forms an exception with respect to the net-work appearance of the wings.

5. *Hymenopterous insects* (from *ὑμην* a membrane, and *πτερον* a wing. The Insects belonging to this order have generally four membranaceous naked wings: the neuters, however, in some of the genera, and in others the males or females,

* Coleoptera, Hemiptera, Lepidoptera, Neuroptera, Hymenoptera, Díptera, and Aptera.

are destitute of wings. The wings do not so much resemble net-work as those of the last order. The tail, except in the male, is armed with a sting. The Bee, the Wasp, and the Ant are of this tribe.

6. *Dipterous insects* (from διπλος double, and πτερον a wing,) are those which have only two wings, each furnished at its base with a poise or balancer. The common House-flies and the Gnat are familiar examples of this order.

7. *Apterous insects* (from α without, and πτερον a wing.) This order contains all such insects as are destitute of wings in both sexes; as the Spider, the Flea, and the Louse.

WORMS.

Nearly all the species of this, the lowest class of animal being, have slow locomotive powers. Their bodies are soft, fleshy, and destitute of articulated members. Some of them have hard internal parts, and others have crustaceous coverings. Many of them have arterial and venous vessels, in which the blood undergoes a real circulation; but these are by no means common to the whole class. In some of them eyes and ears are very perceptible, while others seem to enjoy only the senses of taste and touch, which are never wanting. Many have no distinct head, and most of them are destitute of feet. The whole of these creatures are very tenacious of life. In most of them, such parts as have been destroyed will afterwards be reproduced.

They are divided into five orders*:

1. *Intestinal Worms*. These are simple, naked animals, without limbs, that live some of them within other animals, some in water, and a few in earth. The Ascarides, Tape-

* Intestina, Mollusca, Testacea, Zoophyta, and Infusoria, of Linnaeus.

worms, Leeches, and Common Worms, are illustrations of this order.

2. *Molluscons Worms*. These are simple animals without shells, and furnished with tentacula or arms: most of them are inhabitants of the sea, and some of the species possess a phosphorescent quality. The Sea Anemones, Cuttle-fish, Medusæ, Star-fish, and Sea-urchins, belong to the Molluscæ.

3. *Testaceous Worms*; are Molluscæ covered with calcareous shells, which they carry about with them; as the Muscles, Cockles, Oysters, Snails, &c.

4. *Zoophytes*; appear to hold a rank between animals and vegetables, most of them taking root and growing up into stems and branches. Some of them are soft and naked, and others are covered with a large shell.

5. *Animalcules*; are extremely minute, destitute of tentacula or feelers, and generally invisible to the naked eye. They are chiefly found in infusions of animal and vegetable substances of various kinds.

MAMMIFEROUS ANIMALS.

Primates*.

OF APES IN GENERAL.

INDEPENDENTLY of the general form of these animals, and of their external and internal organization, which in many respects present a striking and humiliating resemblance to those of men, their playfulness, their gesticulations and grimace, have, in all ages, attracted the notice of mankind. Some naturalists have asserted, that they are capable of reasoning and reflection, and that they are guided by instincts much superior to those of the brute creation in general. This, however, is certainly not the case; for they are known to be inferior in sagacity to numerous other quadrupeds.

Their limbs are peculiarly strong; and, in all their operations and manœuvres, their agility is most astonishing. They have great delight in breaking, tearing to pieces, or stealing whatever lies in their way. If any thing irritates or offends them, they indicate their rage by chattering with their teeth. Many of the

* This is the first of the Linnean orders of quadrupeds. The animals, except some species of Bats, have four parallel front teeth in each jaw. They have one canine-tooth on each side in both jaws. The females have two pectoral mammæ or breasts. The fore feet resemble hands, and have fingers, for the most part, furnished with flattened oval nails.

species, when they are beaten, will sigh, groan, and weep, like children; but most of them, on such occasions, utter dreadful shrieks of distress. They, however, frequently make such ridiculous grimaces, place themselves in such strange and whimsical attitudes, and, in other respects, conduct themselves so singularly, that even the most serious persons must, sometimes, be amused with them.

For greater facility of description, the animals of this extensive tribe are usually arranged in three divisions, of Apes, Baboons, and Monkeys.

Apes are destitute of tails: they walk upright, their legs are furnished with calves; and their hands and feet nearly resemble those of men. In their manners they are, for the most part, mild and gentle, and they imitate human actions more readily, and are susceptible of greater attainments, than any others of their tribe. *Baboons* have short tails; they generally walk on all fours, and seldom go upright, except when constrained so to do in a state of servitude. Some of the baboons are as tall as men, have long faces, sunken eyes, and are otherwise extremely disgusting. In their dispositions they are usually so sullen and ferocious as to be incapable of any education whatever. *Monkeys* have tails in general longer than their bodies. They are by far the most lively and active of the whole race. They are greatly addicted to thieving, and scarcely ever imitate human actions without a mischievous intention. One division of the Monkeys, which are denominated by the French writers *Sapajous*, have their tails extremely long, and so formed that they can coil them round any object, so as to answer nearly all the purposes of an additional hand. By means of these they are able even to swing themselves backward and forward amongst the branches of trees. The animals of this division are inhabitants almost exclusively of the New Continent.

Monkeys usually live in much more extensive troops than either Apes or Baboons. Some naturalists have been credulous enough to believe that they form a sort

of republic, in which a great degree of subordination is kept up; that they always travel in regular order, conducted by chiefs, the strongest and most experienced animals of their troop; and that, on these occasions, some of the largest Monkeys are likewise placed in the rear, the sound of whose voice immediately silences those of any of the others which happen to be too noisy. The negroes of Africa believe that these animals are a vagabond race of men, who are too indolent to construct habitations or to cultivate the ground.

The dexterity of Monkeys is such, that, although burdened by their offspring clinging to their backs, they are able to leap from one tree to another, if the distance be not very great, and to secure their hold among the branches with the greatest certainty. When they perceive any person taking aim at them, either with a gun or bow, they cry out and grind their teeth, and this sometimes in the most horrible manner imaginable. If a Monkey be shot, and fall to the ground, all the rest set up a dismal and tremendous howl; and if one of these animals be wounded, and do not fall, it frequently happens that his companions will seize and carry him off far beyond the reach of their enemy.

In many parts of India, Apes and Monkeys are made objects of worship by the natives, and temples of the greatest magnificence are erected in honour of them. Their numbers are almost infinite. They frequently come in troops into the cities, and enter the houses at all times with perfect freedom. In Calicut, however, the inhabitants contrive to keep them out of their dwellings; but to effect this they are compelled to have all their windows latticed. In Amadabad, the capital of Guzerat, there are three hospitals for animals, where lame and sick Monkeys, and even those which (without being diseased) choose to dwell there, are fed and cherished. Twice every week the monkeys of the neighbourhood assemble spontaneously in the streets of the city. They then mount upon the houses, each of which has a small terrace or flat roof, where they lie during the great

heats. On these days the inhabitants always carefully deposit on the terraces, rice, millet, or fruit; and if they be accidentally prevented from doing this, the disappointed animals become so furious, that they break the tiles, and commit various other outrages.

1. *Apes.*

THE ORAN OTAN*, AND CHIMPANZEE†.

In its native state, the Oran Otan is an inhabitant of Borneo, China, the East Indies, and Africa; and the Chimpanzee, of Angola, Sierra Leona, and some parts of Asia. Both the species are exceedingly wild, and are found only in the most retired places. They feed on fruit, vegetables, and roots of various kinds; and, such as inhabit the forests that are adjacent to the sea-shore, live occasionally on crabs and shell-fish. Their resting-places are in trees, where they are perfectly secure from the attack of all predacious creatures except Serpents.

* See Plate i. Fig. 1.

DESCRIPTION. The Oran Otan, when full grown, is from five to six feet in height. Its colour is a ferruginous or reddish brown; and the hair of the fore-arm is reversed. The face is naked, and bears some resemblance to that of a man; but the facial angle is considerably more acute, and consequently the forehead is much more oblique than in any human subject. The chin also has no elevation.

SYNONYMS. *Simia Satyrus.* *Linnaeus.*—Great Ape. *Fenn.*—Man of the Woods. *Edwards.*—Le Jocko. *Buffon.* *Audubert.*—Jocko, in Congo.—Sinsin, in China.—Oran Otan, in the Indian Islands. This name signifies Wild Man.

† **DESCRIPTION.** The difference betwixt the Chimpanzee and Oran Otan is chiefly in size and colour. The Chimpanzee seldom measures more than from two feet and a half to three feet in height; and its hair is dark brown or blackish.

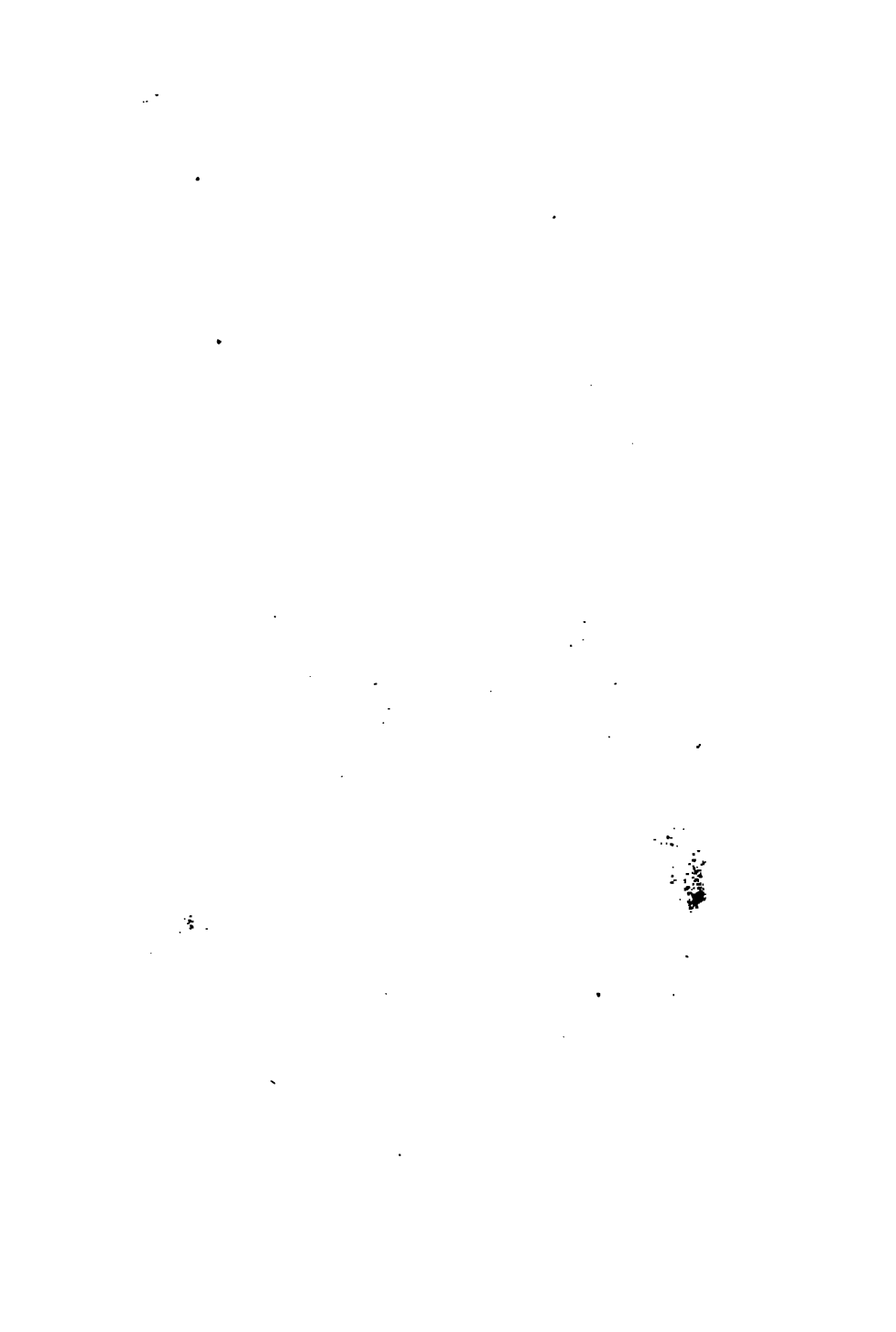
SYNONYMS. *Simia Troglodytes.* *Linn.*—Le Pongo. *Buffon.* *Audbert.*—Baris, in Guinea.—Chimpanzee or Quimpezee, by the English who frequent the coast of Angola.



J. Shaver del. et sculp.

1. Oran Otan. 2. Baboon. 3. Four fingered Monkey.

4. Striated Monkey. 5. Slow Lemur.



Andrew Battel, a Portuguese traveller, who, two centuries ago, resided in Angola nearly eighteen years, informs us that these animals were very common in the woods of that country. Their bodies, he says, were covered, but not very thickly, with a dun-coloured hair; and their legs were without calves. They always walked upright, and generally, when on the ground, carried their hands clasped on the hinder part of their neck. They slept in the trees, amongst which they formed a kind of arbour, to shelter themselves from the weather; and their food consisted principally of fruit and nuts. Battel says, that the inhabitants, when they travelled in the woods, were accustomed to make fires around the places where they slept, for the purpose of keeping at a distance various species of voracious animals; and that, at these fires, the Oran Otans would assemble in the mornings, and would sit by them till the last of the embers were expired. He describes these animals to be so powerful, that ten men would not have strength enough to hold one of them; and, consequently, the inhabitants could never catch the old ones alive. He states, what perhaps few persons will be inclined to believe, that when any of them die, the rest cover up the bodies with great branches of trees.

Among the woods on the banks of the river Gambia, the Oran Otans collect in troops of three or four thousand, and are excessively impudent and mischievous. Jobson, who gives the account, says, that whenever his party, in sailing along the river, passed the stations of these animals, they mounted the trees and gazed upon the men. Sometimes they would chatter and make a loud noise, at the same time shaking the trees with their hands, which they did with vast force and violence. At night, when the vessel was at anchor, the animals often took their stations on the rocks and heights above. When the men were on shore and met any of them, the old ones generally came forward and seemed to grin in their faces; but they always fled when an attack was made. One of them was killed from the boat, with a

gun, but before the boat could be got ashore, the others had carried away the dead body.

M. Le Compte informs us that, in the island of Borneo, these animals are hunted by persons of quality, somewhat in the same manner as stags are in Europe; and that, in his time, this kind of hunting was a favourite diversion of the king.

In a wild state the Oran Otans are said to be so savage and ferocious, that if a Negro be unfortunate enough to wander in the woods, and be discovered by them, they generally attack and kill him. With a piece of wood in their hands, or with their fists only, they are able to drive off even Elephants. They have been known to throw stones at persons who have offended them. Bosman informs us, that, behind the English fort at Wimba, on the coast of Guinea, several of these Apes attacked two of the company's slaves, overpowered them, and would have poked out their eyes with sticks, had not a party of Negroes happened to come up and rescue them.

It is asserted that, during the breeding season, the males relinquish their habitations to the females and their offspring; and that, as soon as the young ones have attained a sufficient degree of strength to venture abroad, they hang on the breast of the mother, with their arms clasped fast about her. And it is believed that, whenever the females are killed, their young ones will always suffer themselves to be caught.

Gemelli Carreri relates a circumstance concerning these animals, which, if we could believe it correct, would almost induce us to suppose that they were not altogether destitute of reason. He tells us, that when the fruits on the mountains are exhausted, they frequently descend to the sea-coast, where they feed on various species of shell-fish, and in particular on a large species of oyster, which commonly lies open on the shore. "Fearful, however, of putting in their paws, lest the oyster should close and crush them, (he says,) they insert a stone within the shell: this prevents it

from closing, and they then drag out their prey and devour it at leisure."

The following are accounts of the Oran Otan and Chimpanzee, in a state of captivity and domestication.

M. de la Brosse, a French navigator, who was in Angola in the year 1718, and who purchased from a Negro, two Oran Otans, remarks that these animals would sit at table like men, and eat there every kind of food, without distinction: that they would use a knife, a fork, or spoon, to cut or lay hold of what was put on their plate; and that they drank wine and other liquors. At table, when they wanted any thing, they easily made themselves understood to the cabin-boy; and when the boy refused to answer their demands, they sometimes became enraged, caught him by the arm, bit, and threw him down. The male was seized with sickness, and he made the people attend him as if he had been a human being. He was even bled twice in the right arm, and, whenever afterwards he found himself in the same condition, he held out his arm to be bled, as if he knew that he had formerly received benefit from that operation.

Two Chimpanzees were sent from the forests of the Carnatic, by a coasting vessel, as a present to the governor of Bombay. They, like the rest of the species, had many human actions, and seemed, by their melancholy, to have a rational sense of their captivity. They were scarcely two feet high, but walked erect, and had nearly the human form. The female was taken ill during the voyage, and died; and the male, exhibiting every demonstration of grief, refused to eat, and lived only two days afterwards.

When M. Le Guat was in Java, he saw a tall female Ape, which, no doubt, belonged to the present species. Her face, he says, had a distant resemblance to some of the grotesque female faces which he had seen among the Hottentots at the Cape of Good Hope. She made her bed very neatly every day, lay upon her side, and

covered herself with the clothes. She would often bind up her head with a handkerchief, and it was amusing to see her thus hooded in bed. It was intended to bring her into Europe for the purpose of exhibition, but she died on board the ship in the latitude of the Cape.

In the year 1759, M. Pallavicini, who held an official situation at Batavia, had in his house two Oran Otans, a male and female, which were extremely mild and gentle. They were nearly of human stature, and imitated very closely the actions of men, particularly with their hands and arms. In some respects they appeared to have a degree of bashfulness and modesty, which is not observable even in savage tribes of the human race; but this, probably, was a trick that they had been taught. If, for instance, the female was attentively looked at by any person, she would throw herself into the arms of the male, and hide her face in his bosom. Their voice was a kind of cry, resembling that of most other Apes and Monkeys.

An individual of the Oran Otan species, or a variety nearly allied to it, was caught, when young, in the interior of Guinea, and carried thence to Surinam. Professor Allemand had received many vague and unsatisfactory particulars respecting this animal. These, however, were, on the whole, so interesting, that he was induced to write to M. May, a captain in the Dutch naval service stationed at Surinam, for the purpose of obtaining an authentic account of it. M. May informed him, that, when he was with his vessel, on the coast of Guinea, one of the sailors brought on board a small tailless Ape about six months old, which had been caught in the kingdom of Benin. He soon afterwards sailed for Surinam; and this animal arrived in perfect health at Paramaribo, where the Oran Otan above-mentioned was then living.

He was greatly surprised to find that the two animals were of the same kind, and that there was no other difference betwixt them than that of size. This, however, was considerable, the Oran Otan being about five feet

and a half in height, whilst his animal scarcely exceeded the height of twelve or fourteen inches.

The old Oran Otan could walk equally well on four and on two feet: it was very strong and powerful. M. May says, that he has seen it take its master (a stout man) by the middle of the body, raise him with the greatest ease from the ground, and then throw him to the distance of two or three paces. M. May was assured, that this animal one day seized a soldier, who happened carelessly to pass near the tree to which he was chained, and that, if his master had not been present, he would have actually carried the man into the tree.

At the time when M. May first saw the animal, it had been in Surinam twenty-one years, and yet it did not appear to have attained its full growth. In confirmation of this, he was informed, that in the preceding year it had increased considerably in height. The captain of an English vessel offered the owner of this animal one hundred guineas for it: but this sum, great as it was, he refused; and two days afterwards the animal died.

Neither the Oran Otan nor Chimpanzee have been often brought alive into Europe. An Oran Otan was exhibited in London in the years 1818 and 1819; a Chimpanzee in the year 1698, another in 1738, and a third in 1819; and, in the course of the last century, three or four have, at different times, been brought into France.

In confinement, both the Oran Otan and Chimpanzee are mild, gentle, and, for the most part, harmless animals. They are perfectly devoid of that disgusting ferocity so conspicuous in some of the larger Baboons and Monkeys; and, in general, are so docile, that they may be taught to perform, with dexterity, a great variety of entertaining actions.

The Chimpanzee that was in England in the year 1698, had been caught in Angola, and far up the country. It was a male, and, at the time it was taken, had a

female in company. This animal was soon rendered tame, and became the most gentle creature imaginable. Those persons whom he knew on board the vessel which brought him over, he would embrace with the greatest tenderness. And, although there were several Monkeys in the ship, yet he would on no occasion associate with them. In many of his actions he displayed considerable sagacity. A suit of clothes was made for him, and in the wearing of them he took great delight. Such part of this dress as the animal could not put on by himself, he would bring in his paws to some one of the ship's company for assistance. At night he would lie down in bed, precisely in the same manner as a human being; would place his head on the pillow, and pull up the bed-clothes, in order to keep himself warm. This animal died a short time after he came to London, and his body was purchased for dissection by Dr. Tyson.

A female Oran Otan, from the island of Borneo, was brought alive into Holland, in the year 1776, and lodged in the Menagerie of the Prince of Orange. She was extremely gentle, and exhibited no symptoms whatever of fierceness or malignity. She had a somewhat melancholy appearance, yet loved to be in company, and particularly with those persons to whose care she was entrusted. Oftentimes, when they retired, she would throw herself on the ground, as if in despair, uttering the most doleful cries, and tearing in pieces any article of linen that happened to be within her reach. Her keeper having sometimes sat near her on the ground, she would frequently take the hay of her bed, arrange it by her side, and, with the greatest anxiety and affection, invite him to sit down.

This animal usually walked on all fours, like other Apes; but she could also walk erect. In an erect posture, however, her feet were not usually extended like those of man, but the toes were curved beneath, in such manner that she rested chiefly on the exterior sides of the feet.

One morning she contrived to escape from her chain;

and, not long afterwards, was seen to ascend, with wonderful agility, the beams and oblique rafters of the building. With some trouble she was taken; but the efforts of four men were found necessary to secure her. Two of these seized her by the legs, and a third by the head, whilst the other fastened the collar round her body. During the time she was at liberty she had, amongst other pranks, taken the cork from a bottle of Malaga wine: she drank the wine to the last drop, and then set the bottle again in its place.

She would eat of almost every kind of food that was given to her; but she lived chiefly on bread, roots, and fruit. Carrots and strawberries she was peculiarly fond of, as well as of several kinds of aromatic plants, and of the leaves and root of parsley. She also ate meat, both boiled and roasted, as well as fish; and was fond of eggs, the shells of which she broke with her teeth, and then emptied, by sucking out the contents. When strawberries were given to her on a plate, it was amusing to see her take them up, one by one, with a fork, and put them into her mouth, holding, at the same time, the plate in the other hand. Her usual drink was water, but she would also eagerly drink all sorts of wine, particularly Malaga. After drinking, she wiped her lips; and after eating, if presented with a tooth-pick, she would use it in a proper manner. Whilst she was on ship-board, she ran freely about the vessel, playing with the sailors, and would go, like them, into the kitchen for her mess. When, at the approach of night, she was about to lie down, she would prepare the bed on which she slept, by shaking well the hay, and putting it in proper order; and, lastly, she would cover herself up warm with the quilt. One day, seeing the padlock of her chain opened with a key, and shut again, she seized a little bit of stick, and put it into the key-hole, turning it about in all directions, and examining to ascertain whether the padlock would not open.

On the first arrival of this animal in Holland, she was so young as to be only two feet and a half high,

and she had but little hair on any parts of the body except the back and arms; but, at the approach of winter, she became thickly covered, and the hair on the back was at least six inches in length. After having been seven months in Holland, she died; and her skin was deposited in the Museum of the Prince of Orange.

This animal was seen and described by M. de Buffon. He informs us that she always walked upright, even when carrying things of great weight; that her air was melancholy, her gait grave, her movements measured, and, that in every respect of disposition, she was very different from other apes. She would present her hand to conduct the people who came to visit her, and would walk as gravely along with them as if she had formed a part of the company. She would frequently sit with persons at dinner: would unfold her towel, wipe her lips, use a spoon or fork to carry the provisions to her mouth, pour her liquor into a glass, and make it touch that of a person who drank at the same time. If invited to take tea, she would bring a cup and saucer, place them on the table, put in sugar, pour out the tea, and allow it to cool before she drank it. All these actions she performed without any other instigation than the signs or verbal orders of her master, and often even of her own accord.

She exhibited no symptoms whatever of ill-nature, and would voluntarily hold out her paw to any person who was inclined to shake hands with her. The food she was chiefly fond of was bread, fruit, carrots, and roots of various kinds; and these she would eat without that appearance of voracity which is common to most animals of her tribe. She would take in one hand a vessel containing water, and carrying it to her mouth, in the same manner as a child or a man, would tranquilly drink the contents.

Her motions were slow and languid, and she never indicated any great degree of vivacity. She would frequently play with a blanket, which served her for a bed; and sometimes she seemed pleased at tearing it.

The usual attitude of this animal was a sitting posture, with her knees and thighs elevated : and even when she walked, it was somewhat in the same posture, with her haunches but little raised from the ground. M. Allemand informs us, that she was seldom seen to stand perfectly upright, except when she wanted to seize something that she could not otherwise reach. From these circumstances, he was induced to believe, that Oran Otans, in a wild state, do not, like men, walk in an upright posture; but that, in the manner of other quadrupeds, they go on all fours. He considers that the hand-like conformation of their fore feet is given to them for the purpose of enabling them to climb. This animal would often amuse herself, in the room where she was kept, by climbing upon the bars of the windows, as high as the length of her chain would allow.

Of an Oran Otan which M. le Compte saw in the Straits of Malacca, he says, that all its actions were so imitative of those of mankind, and its passions were so expressive and lively, that a dumb person could scarcely have rendered himself better understood. This animal was extremely gentle, and exhibited great affection towards every person from whom it received any attentions. One thing was very remarkable, that, like a child, it would frequently make a stamping noise with its feet; this arose either from joy or anger, when it had received or was refused any kind of food to which it was partial.

Its agility was almost incredible. With the greatest ease and security it would run about amongst the rigging of the vessel, would vault about from rope to rope, and play a thousand pranks, as if it were delighted by exhibiting its feats of dexterity for the diversion of the company. Sometimes, suspended by one arm, it would poise itself, and then suddenly turn round upon a rope, with nearly as much quickness as a wheel or a sling. Sometimes it would slide down one of the ropes, and would again ascend with astonishing agility. There was no posture which this animal could not imitate, nor

any motion that it could not perform. It has even sometimes been known to fling itself downward from one rope to another, though at a distance of more than thirty feet.

A young Oran Otan that had been caught in the interior of Borneo, was taken thence to Java; and, in 1817, was brought to England, in one of the ships attached to the expedition which had sailed with Lord Amherst to China. He then measured only about two feet seven inches in length, from his heel to the crown of his head.

This animal was utterly incapable of walking in an upright posture. His progressive motion, on a flat surface, was accomplished by placing his bent fists upon the ground and drawing his body between his arms. In sitting, he turned his legs under him. After his arrival in Java he was allowed to be at liberty, till within a day or two of his being put on board the ship to be conveyed to England; and he made no attempt whatever to escape: but he became violent when put into a large bamboo cage, for the purpose of being conveyed from the island. As soon as he felt himself in confinement, he seized the rails of the cage in his hands, and shaking them violently, endeavoured to break them in pieces; nor did he entirely cease till he had broken through it and made his escape. On board the ship, an attempt was made to secure him by a chain tied to a strong staple: he, however, instantly unfastened it, and ran off with the chain dragging behind. It embarrassed him by its length, on which he coiled it up once or twice, and threw it over his shoulder; but when he found it would not remain on his shoulder, he took it into his mouth. After several useless attempts had been made to secure him more effectually, he was allowed to wander freely about the ship.

He soon became familiar with the sailors, and surpassed them in agility. They often chased him about the rigging; and he gave them frequent opportunities of witnessing his adroitness in effecting an escape. At

first starting he would endeavour to outstrip his pursuers by mere speed: but when he was much pressed, he would elude them by seizing any loose rope that was near him, and swinging out of their reach. At other times he would patiently wait on the shrouds, or at the mast-head, till his pursuers almost touched him, and then would suddenly lower himself to the deck by any rope that was near him; or he would bound along the main-stay, from one mast to the other, swinging by his hands, and moving them one over the other. When in a playful humour he would often swing within arm's length of his pursuer, and, having struck him with his hand, would throw himself from him.

He usually slept, wrapt in a sail, at the mast-head. In making his bed, he carefully removed every thing out of his way that might render the surface on which he intended to lie uneven. And, as soon as he had satisfied himself with this part of the arrangement, he would spread out the sail, and, lying down upon his back, would draw it over his body. If all the sails happened to be set, the animal would hunt about for some other covering, and would steal one of the sailor's jackets or shirts, or would empty a hammock of its blankets, and carry them away to sleep upon.

When off the Cape of Good Hope, he suffered much inconvenience from the cool temperature of the atmosphere; and would often descend from the mast shuddering with cold. Then, running up to any one of the persons to whom he was chiefly attached, he would climb into their arms, and clasping them closely, would derive warmth from their persons, and would scream violently if any attempt was made to remove him.

In Java his food was chiefly fruit; but he also sucked eggs with voracity, and often employed himself in seeking them. He there slept in a large tamarind-tree, in which he formed a kind of bed by intertwining the small branches of the tree, and covering them with leaves. During the day, he would lie with his head projecting beyond his nest, watching those who passed

beneath; and, when he saw any one with fruit, would immediately descend, to obtain a share of it.

On board the ship his food was of no definite kind. He ate readily all kinds of meat, especially raw meat; was very fond of bread, but he always preferred fruit. His beverage in Java was water; but, in the ship, it was as diversified as his food. He preferred coffee and tea, but would readily take wine, beer, or spirits.

In the attempts of this animal to obtain food, he afforded many opportunities of judging respecting his sagacity and disposition. He was always impatient to seize it when held out to him; became passionate if it was not soon given up, and would chase a person all over the ship to obtain it. The animal had been given to Mr. Abel, the naturalist attached to the expedition; and this gentleman seldom went on the deck without sweetmeats or fruit in his pockets; and he could never escape the vigilant eye of the animal. Sometimes Mr. Abel endeavoured to evade him, by ascending to the mast-head, but he was always either overtaken or intercepted in his progress. When the Oran Otan came up to Mr. Abel, on the shrouds, he would secure himself by one foot to the rattling, and confine the legs of this gentleman with the other and with one of his hands, whilst, with the remaining hand, he rifled his pockets. If he found it impossible to overtake Mr. Abel, he would climb to a considerable height on the loose rigging, and then drop suddenly upon him. Or if, perceiving his intention, this gentleman attempted to descend, the animal would slide down a rope and meet him at the bottom of the shrouds.

He neither practised the grimaces and antics of other Monkeys, nor possessed their perpetual proneness to mischief. Mildness and gravity, approaching to melancholy, seemed to be the characteristic of his disposition. When he first came among strangers; he would sit for hours with his hand upon his head, looking pensively at all around him; and, when much incommoded by their examination, he would hide himself beneath any

covering that was at hand. He soon became attached to those persons who kindly used him, would sit by their side, and run to them for protection. The boatswain of the *Alceste* taught him to eat with a spoon; and the animal might often be seen at the door of the boatswain's cabin, enjoying his coffee, quite unembarrassed by those who observed him.

The favourite amusement of this Oran Otan, in Java, was to swing from the branches of trees, to pass from one tree to another, and to climb over the roofs of houses. On board the ship, he was chiefly delighted to hang with his arms from the ropes, and to play with the boys. He would entice them into play by striking them with his hand as they passed, and then bounding from them, but allowing them to overtake him and engage in a mock scuffle, in which he used his hands, feet, and mouth.

But though, for the most part, extremely gentle, he could be excited to violent rage: this he expressed by opening his mouth, showing his teeth, seizing and biting those who were near him.

When brought to London, in the month of August, 1817, this animal was deposited, for exhibition, in the managerie at Exeter 'Change. He was there found to be extremely tame and gentle, and was frequently allowed to take his food and sit by the fire, in the keeper's apartment; and he was taught two feats which he had not practised on board the ship: these were to walk upright, or rather to walk on his feet, unsupported by his hands; the other was to kiss the keeper. With regard, however, to the former of these accomplishments, it may be remarked, that a well-trained dancing-dog would have far surpassed him; and to the latter, that he merely pressed his projecting lips against the face of the keeper.

This animal increased very much in all his dimensions; and, after having lived through two winters, in London, he died on the 1st of April, 1819. The immediate cause of his death was the changing of his

teeth, from which it was ascertained that he must have been extremely young when first caught. His skin and skeleton are now deposited in the museum of the College of Surgeons in London.

In the month of July, 1819, a Chimpanzee, from the Gold Coast of Africa, was placed in the menagerie at Exeter 'Change. This animal was of small size and black colour, and extremely mild and tractable; but, having died not long after he was brought there, little is known respecting his habits and manners.

Père Carbasson brought up an Oran Otan, which became so fond of him, that, wherever he went, it always seemed desirous of accompanying him: whenever, therefore, he had to perform the service of his church, he was under the necessity of shutting it up in a room. Once, however, the animal escaped, and followed the father to the church. There, silently mounting the sounding-board above the pulpit, he lay perfectly still till the sermon commenced. He then crept to the edge, and, overlooking the preacher, imitated all his gestures in so grotesque a manner, that the whole congregation were unavoidably urged to laugh. The father, surprised and confounded at this ill-timed levity, severely rebuked his audience for their inattention. The reproof failed in its effect; the congregation still laughed, and the preacher, in the warmth of his zeal, redoubled his vociferations and his actions: these the Ape imitated so exactly, that the congregation could no longer restrain themselves, but burst into a loud and continued laughter. A friend of the preacher at length stepped up to him, and pointed out the cause of this improper conduct; and such was the arch demeanour of the animal, that it was with the utmost difficulty the father could command the muscles of his countenance, and keep himself apparently serious, while he ordered the servants of the church to take him away.

THE BARBARY APE*.

The forests of India, Arabia, and Africa, abound in animals of this species; and they are so common in Barbary, that the trees are sometimes nearly covered with them. A few are found about the rock of Gibraltar.

They subsist on vegetables and fruit; and, in their manners, are equally fierce and mischievous. We are informed that sometimes they assemble in the open plains of India, in vast troops, and that if they see any of the women going to market, they attack them and take away their provisions. Tavernier, apparently alluding to this species, says, that some of the inhabitants of India have an odd mode of amusing themselves at their expense. They place five or six baskets of rice, forty or fifty yards asunder, in an open ground near their retreat, and by every basket put a number of stout cudgels, each about two feet long: they then retire to some hiding-place, not far distant, to wait the event. When the Apes observe that there are no persons near the baskets, they descend in great numbers from the trees, and run towards them. They grin at each other for some time before they dare approach: they advance, then retreat, and seem much disinclined to encounter each other. At length the females, which are more courageous than the males, venture to approach the baskets, and as they thrust in their heads to eat, the males on the one side advance to prevent them. A sharp

* DESCRIPTION. The face of this Ape is shaped somewhat like that of a Dog; and its cheeks are furnished with pouches. When the animal stands upright, its height is usually betwixt three and four feet. The colour of the back is a greenish brown, and, of the belly, pale yellow.

SYNONYMS. *Simia inuus*. Linn.—Le Magot. Buffon. Audebert.—Momenet. Johnston.—Yellow Ape. Du Halde.—Barbary Ape. Pennant. Shaw.—Shaw's Gen. Zool. Pl. 7.

contest now commences. The different combatants seize the cudgels and beat each other, till the weakest party is driven into the woods. The victors, M. Tavernier tells us, then fall to in peace, and devour the reward of their labour.

He states, that as he was travelling in the East Indies, in company with the English president, several large Apes were observed upon the trees around him. The president was so much amused, that he ordered his carriage to stop, and desired M. Tavernier to shoot one of them. The attendants, who were principally natives, and well acquainted with the manners of these animals, entreated of him to desist, lest those that escaped might do them some injury in revenge for the death of a companion. Being, however, still requested, he killed one of them. In an instant all the remaining Apes, to the number of sixty or upwards, descended in fury, and as many as could, leaped upon the president's coach, where they would soon have strangled him, had not the blinds been immediately closed, and the number of attendants so great as to drive them off. They however continued to run after the servants, for at least three miles from the place where their companion was slain.

This species of Ape agrees well with our climate, and is very common in exhibitions in this country. It walks on four in preference to two legs; and uses the same grimaces to express both anger and appetite. Its movements are brisk, its manners gross; and, when agitated by passion, it exhibits and grinds its teeth. Notwithstanding their ferocious and unaccommodating disposition, these animals are sometimes taught to dance, to make gesticulations in cadence, and allow themselves peaceably to be clothed.

M. de Buffon had a Barbary Ape for several years. In summer, he says, it delighted to be in the open air; and, even in winter, it was frequently kept in a room without fire. Though long in confinement, it did not become at all civilized. Whenever food was given to

it, it filled its pouches; and, when about to sleep, loved to perch on an iron or wooden bar.

THE PIGMY APE*.

According to the account given by M. Desfontaines, these Apes live in great troops; and at Sara, in ancient Numidia, are numerous beyond description. Their food consists chiefly of pine-apples, nuts, Indian figs, melons, and various kinds of fruits and vegetables. Like many others of their tribe, they often go in a body to attack gardens or plantations; and, notwithstanding all the care that is taken to prevent their depredations, they are frequently successful. Previously to the commencement of their plundering, they always send one of their party to the top of some adjacent rock or tree, to give notice to the rest of any appearance of interruption. This animal remains on watch during the whole business; and, if he perceive any person approach, or hear any alarming noise, he gives a loud shriek, on which the whole troop immediately run off, and climb the trees, carrying away with them whatever they may happen to have seized. If the alarm continue, and the country be well wooded, they pursue their route, leaping from tree to tree, all the way to the mountains. In this procedure the females are often burdened by their

* See Plate i. Fig. 2.

DESCRIPTION. The Pigmy Ape, when on its hind legs, is about two feet high. Its face is almost naked, and is somewhat long and wrinkled. The canine-teeth are short, and, as well as the ears, very much resemble those of men. The eyes are round, reddish, and have great vivacity. The posteriors are naked and callous; and, in place of a tail, there is a small prominent piece of skin, five or six lines in length. The general colours of the body are olive-brown above, and yellowish on the belly; and, in many individuals, part of the breast and belly have a large, dark-coloured mark.

SYNONYMS. *Simia sylvanus*. Linn.—Pitheque. Buffon.—Pigmy Ape. Pennant.—Shaw's Gen. Zool. Pl. 8.

young-ones clinging round their necks and backs; and yet, in spite of such an incumbrance, they are able to leap to vast distances. The injury that these animals do to the fruits and corn is incalculable. They gather them into heaps, and tear and throw them on the ground in such quantities, that what they eat or carry off is generally trifling compared with the whole quantity which they destroy.

The females seldom produce more than one young-one at a birth. This, almost as soon as it comes into the world, clings to the back of its dam, and so closely embraces her neck with its arms, as not to be shaken off by any of her usual exertions. The Pigmy Apes have not hitherto been known to breed in a domestic state, even when kept in large enclosed court-yards, and in their native country.

The natural disposition of these creatures is in general so mild, that, in most cases, they may be tamed without difficulty. In their general manners they are gay and frolicsome, and they always chatter when pleased; but, when irritated, they use threatening gestures, and will generally bite, with great fury, such persons as injure or insult them. To those, on the contrary, from whom they are accustomed to receive attentions, they become greatly attached: they will exhibit towards them strong proofs of fidelity, and will even follow them about from place to place without attempting to escape. When these Apes are alarmed, their fear is always plainly depicted in their countenance; for this changes colour somewhat like that of man. They are in general a dirty and filthy species, and leave an unpleasant smell wherever they go. With the most mischievous propensity, they break and destroy nearly every thing that lies in their way; and they are only to be restrained from this by severe chastisement. They use both their hands and feet with singular address in laying hold of objects. M. Desfontaines informs us that he has often seen these animals throw off, with the greatest ease, chains by which they appeared to be strongly secured.

In the supplementary volumes of M. de Buffon, we are informed that this writer kept a male Pigmy Ape for more than a year. He says that its usual mode of walking was on four feet; and that it could seldom be induced to walk upright for more than a few minutes at a time. It was an active animal, and generally in motion. Its greatest delight seemed to be in leaping, climbing, and catching at every thing within its reach. Whenever it was left alone it exhibited symptoms of discontent, by exerting a kind of mournful cry. In its disposition it was so mild, that it was rarely known to bite with severity any one who teased or offended it.

The Pigmy Apes generally sleep in caverns in the woods; and we are told that the natives of the country which they inhabit sometimes adopt a singular mode of taking them, for the purpose of fattening them as food. They place, near their haunts, vessels containing strong liquors; and the animals, assembling to enjoy so unexpected a repast, become intoxicated, fall asleep together, and in this predicament are easily secured.

2. Baboons.

THE COMMON OR MOTTLED BABOON*.

The disposition of these Baboons is exceedingly ferocious, and their appearance is at once both grotesque

* **DESCRIPTION.** This animal, which is found in the hottest parts of Africa, is frequently three or four feet in height, and, in its upper parts, excessively strong and muscular. Towards the middle of the body it is, like all the Baboons, very slender. Its general colour is a grayish brown; and the face, which is long, is of a tawny flesh colour. It has pouches in its cheeks. The tail is very short, and the posteriors are bare, and callosous. *Shaw.*

SYNONYMS. *Simia Sphinx. Linnaeus.*—Mottled Baboon. *Pennant.*—Le Papion. *Buffon.* *Audebert.*—Common Baboon. *Shaw.*—Baboon. *Bewick.*—*Shaw's Gen. Zool. Pl. 16.*—*Bew. Quad. p. 254.*

and formidable. When confined in a cage they will sometimes lay hold of the bars, and shake them so powerfully as to make all the spectators tremble; and, in their native forests, they are oftentimes dangerous enemies.

In Siam they frequently sally forth in astonishing multitudes, to attack the villages, during the time the labourers are occupied in the rice harvest; and they plunder the habitations of whatever provisions they can lay their paws on. Fruit, corn, and roots, form their principal food; and, in obtaining these, they often commit the most violent outrages.

They are so strong that, in a wild state, one of these Baboons can easily overpower two or three men, if they be unprovided with weapons of defence.

The females seldom have more than one young one each: this they carry between their arms; and they have not been known to produce in any other than hot climates.

In confinement, these animals are always savage and ill-natured: they frequently grind their teeth, fret and chafe with the utmost fury. One that was exhibited at Edinburgh in 1779, uniformly presented to the spectators the most threatening aspect, and attempted to seize every person who came within the reach of his chain: on such occasions he usually made a deep grunting noise. So fond are these Baboons of eggs, that one of them has been known to put eight into his cheek-pouches at once; and then, taking them out one by one, has been observed to break them at the end and deliberately swallow their contents. They may be induced to eat meat, but not unless it be cooked; they are particularly partial to wine and spirits. One of these animals which Mr. Pennant saw at Chester was of tremendous strength, and excessively fierce. Its voice was a kind of roar, not unlike that of a Lion, except that it was low and somewhat inward. It walked on all fours, and never stood on its hind legs unless it was compelled to do so by the keeper; but would frequently

sit on its rump, in a crouching manner, and drop its arms across before its body. Mr. Pennant says that this animal was particularly fond of cheese; and that, whenever ears of wheat were given it, it dexterously picked out the grains, one by one, with its teeth, and ate them.

The capricious disposition of this Baboon often leads it to the most deliberate acts of mischief. Dr. Goldsmith says he has seen one of these animals break a whole service of china, evidently by design, yet without appearing to be in the least conscious of having done amiss.

THE MANDRILL, OR RIB-NOSED BABOON*.

It is difficult to figure to the mind an animal more disgusting in its manners, or more hideous in its appearance, than the Mandrill. Under its projecting forehead are two small and vivid eyes, situated so near to each other that their position alone gives to the physiognomy an air of ferocity. An enormous muzzle, indicative of the most brutal passions, terminates in a broad and rounded extremity of a fiery red colour.

* **DESCRIPTION.** In height this animal, when standing upright, measures from three feet and a half to four and a half or five feet. The face is naked; and the cheeks are of a violet blue colour, and have several oblique furrows. The nose is deep red. The skin round the eyes is violet; and the irides are hazel. The hair round the neck is very long. The hair of the sides of the head joins that at the top, and the whole terminates in a somewhat pointed form. The beard is yellowish. Each hair of the body is annulated with black and yellow, which gives to the whole fur a greenish brown appearance. This animal has pouches in its cheeks.

SYNONYMS. *Simia Mormon.* *Simia Maimon.* *Linnaeus.*—*Le. Mandril.* *Le Choras.* *Buffon.*—*Le Mandrill.* *Geoffrey.* *Audubert.* *Latreille.*—*Mantegar.* *Phil. Tran.*—*Great Baboon.* *Rib-nosed Baboon.* *Pennant.*—*Variegated Baboon.* *Maimon.* *Shaw.* *Bew. Quad. p. 456.*

from which continually oozes a mucous humour. The cheeks, greatly swollen, and deeply furrowed, are naked, and of a violet-blue colour. A narrow, blood-coloured ridge extends down the middle of the face, and terminates in the nose. The canine-teeth are sharp and extremely large. The tail is short; and the posteriors are naked and red, with shades of blackish and blue.

Never did the disposition of an animal answer more correctly to its physiognomy, than that of the Mandrill. None of the various means which have been adopted to subdue the ferocity of other beasts, have succeeded with this. Endowed, likewise, with muscular power and strength incomparably beyond those of man, the keepers of wild animals are always in dread of it. Its whole appearance, its gestures and its cries, are horrid; in short, it affords to us a striking emblem of vice in its greatest deformity.

But the Mandrill has not, in every part of its age, this excess of brutality. Until it has attained that period of its growth when the canine-teeth are first developed, which usually takes place about the age of two years, its face is black, and it is as gentle as most other young animals. After this time, however, but more particularly after its subsequent change of them, the hair becomes long and wiry, the cheeks assume their livid colour, the body gradually takes its muscular form, and the ferocious passions are also developed.

It has been said that the voice of the Mandrill somewhat resembles the roaring of a Lion. Its cry is *aou*, *aou*, pronounced from the throat. These animals will live on fruit, carrots, and bread; and they eat to the amount of two or three pounds weight per day. They will likewise eat meat that has been cooked, but they always refuse such as is raw. When nuts are given to them, they crush them between their teeth, and they swallow indiscriminately both the shells and kernels. They are fond of fermented liquors, and particularly of wine and spirits.

Mandrills are found, in a wild state, on the Gold

Coast, and in several other parts of Africa. Some of them are said also to be natives of the East Indies, and of the Islands of the Indian Archipelago.

THE DOG-FACED BABOON*.

These animals usually associate in vast companies. When travellers pass their haunts, they run into the nearest trees, and shake the boughs with great vehemence, at the same time chattering very loudly. They are so powerful, as, without difficulty, to overcome a man; and they frequently commit such depredations in cultivated grounds, that the proprietors are compelled to have armed men continually on the watch to prevent them from plundering.

Among the mountains near the Cape of Good Hope there are immense troops of these Baboons, or of a kind called *Ursine Baboons*, which are very nearly allied to them. When any person approaches their haunts, these animals set up a universal and horrible cry for a minute or two, and then conceal themselves in their fastnesses, and keep a profound silence. They seldom descend to the plains, except for the purpose of plundering the gardens that lie near the foot of the mountains. While they are engaged in this operation, they are careful to place sentinels for the purpose of preventing a surprise. They break the fruit in pieces, and

* DESCRIPTION. The Dog-faced Baboons are betwixt four and five feet high. Their head and face greatly resemble those of a dog. The hair is of a dusky colour, and peculiarly long and shaggy as far as the waist, but short on the hinder parts. The face is naked; and the ears are pointed and concealed in the fur.

The Dog-faced Baboons are natives of various parts of Africa and Asia.

SYNONYMS. *Simia hamadryas*. *Linneus*.—Le Tartarin. *Brisson*.—Le Babouin à museau de Chien. *Buffon*.—Dog-faced Baboon. *Pennant*. *Shaw*.—*Shaw's Gen. Zool. Pl. 15*.—*Bewick's Quad. p. 460*.

cram it into their cheek-pouches, in order, afterwards, to eat it at leisure. The sentinel, if he sees a man, gives a loud yell; and the whole troop retreats with the utmost expedition, and in a most diverting manner, the young-ones jumping on and clinging to the backs of their parents.

When these animals discover any single person resting and regaling himself in the fields, they, if possible, approach behind, and snatch away whatever they can lay hold of; then, running to a little distance, they will turn round, seat themselves on their posteriors, and, with the most arch grimaces imaginable, will devour it before the man's face. They frequently hold it out in their paws, as if to offer it back again, and use such ridiculous gestures, that, although the poor fellow loses his dinner, he seldom can refrain from laughing.

These Ursine Baboons are indeed so numerous among the mountains, as, at times, to render it exceedingly dangerous for travellers to pass them. They sit undismayed on the tops of the rocks, and sometimes roll or throw from thence stones of immense size. A gun, in these cases, is generally of indispensable use, in driving them to such a distance that the stones they throw may do no material injury. In their flight, even with their cubs upon their backs, they often make most astonishing leaps up perpendicular rocks. And their agility is so great as to render them very difficult to be killed, even with fire-arms.

Lade has very accurately described their manners. "We traversed a great mountain near the Cape of Good Hope, and amused ourselves with hunting large Apes, which are very numerous in that place. I can neither describe all the arts practised by these animals, nor the nimbleness and impudence with which they returned, after being pursued by us. Sometimes they allowed us to approach so near, that I was almost certain of seizing them. But when I made the attempt, they sprang, at a single leap, ten paces from me, and mounted the trees with surprising agility. They thence looked at us

with great indifference, and seemed to derive pleasure from our astonishment. Some of them were so large, that, if our interpreter had not assured us they were neither ferocious nor dangerous, our number would not have appeared sufficient to protect us from their attacks. As it could serve no purpose to kill them, we did not use our guns. But the captain levelled his at a very large one that was seated on the top of a tree. This kind of menace, of which the animal, perhaps, recollected his having sometimes seen the consequences, terrified him to such a degree that he fell down motionless at our feet, and we had no difficulty in seizing him. But, when he recovered from his stupor, it required all our dexterity and efforts to keep him. We tied his paws together, but he bit so furiously, that we were under the necessity of binding our handkerchiefs over his head."

In confinement these Baboons may be rendered docile; yet they always retain the disposition to revenge an injury. At the Cape they are often caught when young, and brought up with milk; and Kolben tells us, that they will become as watchful over their master's property as the most valuable house-dog is in Europe. Many of the Hottentots believe they can speak, but that they avoid doing so lest they should be enslaved, and compelled to work. Though not naturally carnivorous, they will eat either meat or fish that is cooked. They are generally kept chained to a pole; and their agility in climbing, leaping, and dodging any one that offers to strike them, is almost incredible. Though one of these animals was thus tied up, it was impossible, at the distance of a few yards, to hit him with a stone. He would either catch it, like a ball, in his paw, or he would avoid its blow with the most astonishing agility.

These Baboons are sometimes hunted with dogs; but it is found necessary to have a considerable number in the chase. A single dog is by no means sufficient; for

if the Baboon can but once lay hold of a dog by the hind legs, he will swing him round till he is giddy. With their immense teeth they also bite violently, and, by means of them, they are able to defend themselves with the utmost obstinacy.

This seems to have been the kind of Ape that M. le Vaillant had long with him in his travels through the southern parts of Africa, and to which he gave the name of *Kees*. It was of infinite use to his people; was more watchful than any of his dogs, and frequently warned him of the approach of predacious animals, when the dogs seemed unconscious that such were near.

Both the Dog-faced and Ursine Baboons have been frequently brought into England. In the month of February, 1820, there were two young ones in the menagerie at Exeter 'Change.

3. *Monkeys.*

THE EGRET MONKEY*.

In the forests of Southern Africa, India, and Java, these Monkeys are frequently seen by travellers to gambol on the trees with great liveliness and activity; and among the branches of these they keep up an incessant noise during the night. They often assemble in troops, for the purpose of plundering the plantations. When they have entered a field of millet, they load

* DESCRIPTION. This species of monkey is about two feet in height. It has somewhat the colour of a wolf; and the feet are black. The head is large and ugly. The nose is depressed, the cheeks are wrinkled, the eyebrows prominent and bristly, and the lip is cleft with a double fissure. On the top of the head there is a pointed tuft of hair.

SYNONYMS. *Simia Aygula*. Linn.—*L'Aigrette*. Buffon. Audubert.—*Egret Monkey*. Pennant. Shaw.

themselves with this grain, by taking in their mouths and in each paw as much as they can carry, and putting a quantity of it under their arms. Thus laden they return to their retreats, leaping all the way on their hind feet. If pursued, they do not, in their alarm, let the whole fall, in order to run off: they drop the stalks which they hold in their hands, and under their arms, that they may run on their four feet, which they do with more speed than on two; but they still retain what they carried in their mouth. In collecting the maize, they examine, with the most scrupulous accuracy, every stalk they pull; and those which they find not perfectly suited to their purpose they throw away. By this delicacy of choice they often do infinitely more damage than even by what they carry off to their habitations*.

Few animals are more dirty, ugly, or loathsome than the Egret Monkeys. When awake they frequently grind their teeth, and knit their brows; and during these and their various other grimaces, they can scarcely be viewed without disgust and horror. Yet if taken young, and reared with attention, they will become exceedingly mild and tractable. M. Audubert informs us that he has seen a female of this species, which exhibited symptoms of the sincerest affection towards a small Magot (perhaps Pigmy Ape) that was confined in the same cage. The Egret was attentive to its wants, caressed, and frequently held it to her bosom in her folded arms.

* This account has been applied by some naturalists only to the present species; but Bosman, who is their principal authority, makes it common to most of the Monkeys that are found on the coast of Guinea.

THE CHINESE MONKEY *.

If we may believe the accounts which various travellers have given of the parts of the East Indies, and the Indian Islands, which are inhabited by these Monkeys, the proprietors of corn-fields and of sugar-plantations are frequently injured to a great extent by their predatory incursions. In their depredations in the sugar-grounds, they always place a sentinel, on some adjacent tree, to watch whilst the rest load themselves with plunder. If any person approach he screams loudly to his companions, each of which, seizing as many canes as he can grasp, in his right arm, instantly runs off on three legs. If closely pursued, they throw away their prize, and endeavour to save themselves by scrambling up the trees.

When corn, fruit, and succulent plants fail, they eat insects; and they sometimes descend to the margins of rivers, and to the sea-coast, in order to catch fish and crabs. They are said to put their tail betwixt the pincers of crabs, and, when these are closed, to carry them off, and eat them at leisure. They also gather cocoa-nuts, and are well acquainted with the method of extracting the juice for drink, and the kernel for food. Indeed, the natives of India often catch these Monkeys by means of a cocoa-nut with a hole in it. This is laid near their haunts, and some one of them takes it up, and with difficulty thrusts his paw into the hole in order to get at the kernel; the people who are on watch then

* DESCRIPTION. The Chinese Monkey has its name from the singular disposition of the hair on the top of its head: this is parted in the middle, lies smooth over each side, and spreads in a circular manner, so as somewhat to resemble a Chinese cap. It is about the size of a cat, has a long tail, and is of a pale yellowish brown colour.

SYNONYMS. *Simia Sinica*. *Linnaeus*.—*Le Bonnet Chinois*. *Buffon*. *Audebert*.—Chinese Monkey. *Pennant*. *Shaw*.—*Shaw's Gen. Zool. Pl. 20, from Buffon*.

immediately run up, and seize the animal before he can disengage himself.

These Monkeys, like most others of their tribe, are wonderfully active. They leap, with great agility, from tree to tree; and even the females, although loaded with their young ones, are able to leap nearly as well as the rest. We are informed by Pryard, that, in Calicut, they were formerly so numerous, and so impudent, that the inhabitants were under the necessity of having trellises to their windows, in order to prevent them from entering into and plundering their houses.

THE STRIATED MONKEY*.

In a native state these beautiful little creatures, like most others of their tribe, live in society, on trees. They inhabit the woods and forests of South America, where they subsist chiefly on fruit and vegetables: those, however, which have been kept in a state of captivity, have been known to feed on fish, insects, and worms. One that was brought to England in an East India ship would eat nuts, but could not be prevailed with to touch ripe fruit. This creature was peculiarly fond of the smaller kinds of spiders and their eggs; but he uniformly refused the larger ones, as well as the

* See Plate i. Fig. 4.

DESCRIPTION. This animal is no larger than a squirrel. Its tail is long, thickly covered with fur, and beautifully marked, through its whole length, with alternate rings of black and white. The body is of a reddish ash-colour, slightly undulated with dusky shades. The face is flesh-coloured, and has on each side a large and thick tuft of milk-white hair, standing out before the ears. The paws, which are covered with hair, have sharp nails. *Shaw.*

SYNONYMS. *Simia iacchus.* *Linnaeus.*—*L'Oustiti.* *Buffon.*
Audebert.—*Striated Monkey.* *Pennant.*—*Sanglin.* *Kerr.*—*Shaw's Gen Zool. Pl. 25.*—*Bew. Quad. p. 475.*

large blue-bottle flies, though he frequently ate those of the common species.

Mrs. Kennon, formerly midwife to the Royal Family, had a Striated Monkey. It ate of many different kinds of food, such as biscuits, fruit, vegetables, insects, and snails; and once, when let loose, it snatched from a basin of water, a Chinese gold-fish, which it killed and greedily devoured. After this, by way of trial, some live eels were given to it: these at first frightened it, by twisting round its neck; but it soon called forth resolution enough to master and eat them.

Striated Monkeys may be rendered exceedingly tame and gentle; and they are so hardy as sometimes to produce young ones in the more southern parts of Europe. M. Audebert informs us that this has been the case, even so far north as in Paris. A pair of these monkeys, which belonged to a Mr. Cook, a London merchant, who resided in Lisbon, had young ones at that place. At their birth they had little fur upon them, and were excessively ugly. They frequently clung fast to the breast or back of their mother; and when she was tired of her burden, she would rub them off against the wall, or whatever else was near, as the only mode of ridding herself of them. Whenever this was the case, the male immediately took them to him, and suffered them to hang for a while round him.

The voice of the Striated Monkey is a kind of shrill hissing whistle. Most of the individuals have a somewhat musky smell. Linnæus remarks that they are great enemies to cats.

THE HOWLING MONKEY*.

The howling of these Monkeys in the woods, during the night, is truly horrid. It has been compared by

* DESCRIPTION. These animals are not of large size. Their usual length is about one foot nine inches, from the

some travellers to the screaming of immense herds of swine, and by others to the rolling of drums. It usually commences at the close of dark, and again about two hours before daylight in the morning. A person hearing it for the first time, would fancy himself about to be attacked by ferocious beasts from some nearly adjacent forest, when in fact the animals from which it proceeds, may be distant from him a mile or more. Some travellers have asserted that the Howling Monkeys are very methodical in this kind of vocal concert. We have been informed that one of them mounts a high branch, and that the rest seat themselves beneath. He begins his howl, and continues it for a considerable while by himself; then, upon a signal given, the whole assembly join in chorus. When at last they cease, it is stated to be on another signal, which is given for that purpose by the leader. This extraordinary noise is made by means of a peculiar long bony process in the throat, the concavity of which augments the sound in a very surprising manner.

These Monkeys usually assemble in troops of from fifteen to thirty. They are not considered to be in any respect dangerous, and always run away with great fear from the hunters, leaping from tree to tree with wonderful agility. But, if only a single person approach their haunts, they have courage enough to tease and threaten him. Dampier, speaking of those in the Bay of Campeachy, says that they danced from tree to tree over his head, chattering and making a terrible noise,

extremity of the muzzle to the base of the tail. Mr. Le Vaillant, however, had the head of one which must have been at least twice this size. The tail is prehensile, about the same length as the body, and naked at the under part of the extremity. The general colour of the fur is a bright chesnut, or ferruginous red. The face is naked and black.

SYNONYMS. *Simia seniculus*. Linn.—*L'Alouette*. Buffon. *Audebert*.—Royal Monkey. Pennant. Shaw.—*Guariba*. *Marcgrave*.—*Hurleur*, in Cayenne.—*Arabata*, in Oronoko.

and many grimaces and antic gestures. Some of them broke down dry sticks and flung at him. One that was bigger than the rest came to a small limb just over his head, and leaping directly at him, made him start back; but the Monkey caught hold of the bough by the tip of his tail, and there remained swinging backward and forward, making mouths at him. At last he passed on, they still keeping him company, with the like menacing gestures, till he came to the huts where his people were collected.

He informs us that they are sullen when seized, and extremely difficult to be taken when shot; for that they will cling with their tail and feet to a bough, as long as any life remains. "When I have shot at one, and broken its leg or arm, (he says,) I have pitied the poor creature, to see it look at and handle the broken limb, and then turn it from side to side, in a manner so mournful as scarcely to be described."

When M. Oexmelin was in South America, he attended the hunting of these animals, and was surprised at their sagacity, not only in distinguishing particularly those who were active against them, but, when attacked, in defending themselves, and providing for their own safety. He remarked, that they never abandoned each other; that they leaped from tree to tree with incredible agility; and that they flung themselves headlong from branch to branch, without ever falling to the ground, always catching hold either with their hands or tail. He says, that if they are not shot dead at once they cannot be taken; for even when mortally wounded they will remain fixed to the trees, where they often die, and from which they do not fall till they are corrupted. More than four days after death he has seen them firmly fixed to the trees; and fifteen or sixteen were sometimes shot before three or four could be obtained.

These Monkeys often descend to the sea shores in order to feed on shell-fish. Dampier informs us that he has seen several of them take up oysters from the

beach, lay them on one stone, and beat them with another till they demolished the shells; after which they devoured the contents.

The females produce two young ones at a birth; and these, on all occasions, cling so tenaciously to the back of their mother, that there is no other method of obtaining one of them than by shooting the parent. When brought up in captivity they lose their voice, have always a sad and mournful air, and soon pine away and die. In confinement they are indolent and slow in all their motions; and their chief delight seems to consist in coiling the extremity of their tail round some object placed for the purpose, and thus suspending themselves, with their heads downward.

Many of the voyagers describe the flesh of these Monkeys as excellent eating, and as having a great resemblance in taste to mutton. Dampier says, that he never ate any thing more delicious. The heads are frequently served up in soup; but there seems something extremely disgusting in the idea of eating what appears, when skinned and dressed, so like a child. The skull, the paws, and indeed every part of them remind us, much too strongly, of the idea of devouring a fellow-creature.

THE FOUR-FINGERED MONKEY*.

These are bold and active animals, full of gambols and grimaces; but in their disposition mild and docile. From their numbers and activity they enliven many of the dreary forests of South America. When engaged on

* See Plate i. Fig. 3.

DESCRIPTION. The length of this Monkey is about eighteen inches, exclusive of the tail, which measures nearly two feet. Its legs and arms are so long that the animal has hence obtained the name of *Spider Monkey*. The face is naked and of a copper colour; and the body, which is of a peculiarly slender form, is covered on all parts with long black hair.

expeditions of plunder, they, like others of their tribe, have the sagacity to place sentinels on the adjacent trees, in order to give warning of the approach of danger. It has been said by Ulloa, that, in their native forests, when they want to pass from top to top of lofty trees, too distant for a leap, they will form a kind of chain, by hanging down linked to each other by their tails; and that they will swing backward and forward in this manner till the lowest monkey catches hold of a bough of the next tree, from which he draws the rest up. We are also told, that, by a similar expedient, they occasionally cross rivers, where the banks are steep.

In Guiana, these Monkeys are said to be extremely numerous. They live chiefly on fruit and roots, though they will occasionally eat insects and worms: they are likewise fond of shell-fish.

When running about in forests, they are sometimes guilty of very mischievous pranks. They are not, like the Howling Monkeys, alarmed at the approach of hunters, unless they have guns; but at the report of these they all immediately run away. Sometimes they will break pieces off the branches of trees, and throw them with great dexterity at the men as they pass below; and they not unfrequently adopt even more unpleasant modes of repulsion. In these situations they assume a thousand attitudes, which often afford great diversion to the spectators.

The agility with which they pass from one tree to another is really wonderful. M. Audebert says, that he has seen a Four-fingered Monkey climb up one of the trees on the Boulevards of Paris; where, coiling his tail

The under side of the extremity of the tail is naked. These animals have no thumbs on their fore feet.

ΣΥΝΟΝΥΜΑ. *Simia paniscus*. Linn.—Le Coiata. *Buffon*. Audebert.—Spider Monkey. *Edwards*.—Quato, in Surinam.—Chamek, in Peru.—*Dr. Shaw's Figure*, in Pl. 28, is a very bad representation of the animal.

round one of the branches, it swung itself a few times backward and forward, and then, with the force thus acquired, darted into the next adjacent tree.

The countenance of these animals has at all times a grave and melancholy expression. They are easily tamed, but, by confinement, they lose much of their natural playfulness: they seem to shun the sight of mankind, and usually sit with their head bent upon their stomach, as if to conceal themselves from observation. When touched they utter a plaintive kind of cry; and they have another kind of sound, nearly similar, which they emit in testification of delight at receiving any kind of food to which they are particularly partial. These animals are peculiarly dexterous in the use of their tail. They can pick up with it objects so small as bits of wood or straw. M. Audebert says, that he has seen a four-fingered Monkey carry hay with its tail, for the purpose of making its bed, and move and spread it about with as much facility as an elephant could have done with his trunk. A four-fingered Monkey has also been known, in its frolic, to lay hold in this manner of a Squirrel, which had been put into the same cage with it as a companion.

So delicate are these Monkeys, that it is not without great difficulty that they can support a long voyage. The consequence is, that they are not often brought alive into England; and that, even if they arrive in tolerably good health, the cold of our northern climate soon destroys them.

It was a Monkey either of this species, or of one nearly allied to it, which Captain Stedman shot whilst in Surinam, for the purpose of making it into broth, and the destruction of which was, he says, attended with such circumstances as almost ever afterwards deterred him from going a monkey-hunting. The narrative is so interesting, that I shall give it in his own words. "Seeing me near the bank of the river in the canoe, the creature made a halt from skipping after his companions, and, being perched on a branch that hung over

the water, examined me with attention, and with the strongest marks of curiosity, no doubt taking me for a giant of his own species; while he chattered prodigiously, and kept dancing and shaking the bough on which he rested, with incredible strength and agility. At this time I laid my piece to my shoulder, and brought him down from the tree into the stream. But may I never again be witness to such a scene! the miserable animal was not dead, but mortally wounded. I seized him by the tail, and, taking him in both my hands, to end his torment swung him round, and hit his head against the side of the canoe: but the poor creature still continuing alive, and looking at me in the most affecting manner that can be conceived, I knew no other means of ending his murder, than to hold him under the water till he was drowned; while my heart sickened on his account: for his dying eyes still continued to follow me with seeming reproach, till their light gradually forsook them, and the wretched animal expired. I felt so much on this occasion, that I could neither taste of him nor of another which had been shot at the same time, though I saw that they afforded to my companions a delicious repast."

Of the same species Captain Stedman relates a circumstance very remarkable. He says, that he one day saw from his barge, one of these Monkeys come down to the water's edge, rinse its mouth, and appear to clean its teeth with one of its fingers.

THE FEARFUL MONKEY*.

There is no species of Monkey more agile, dexterous, and amusing, than this. Even the Indians of South

* DESCRIPTION. This Monkey is about the size of a small cat, and its tail is somewhat longer than the body. The tail is prehensile, but it is not naked at the under part of the extremity. The individuals vary much in colour; some being red, others

America, who, in general, are very inattentive to this race of animals, are frequently induced to stop their canoes, in order to admire the playfulness and grimaces of these Monkeys, in the forests adjacent to the rivers. Their troops usually consist of from twenty to forty individuals. They frequently whistle. When enraged they shake their heads violently; and utter, in a ferocious tone, the syllables *Pi, ca, rou*. Their tail is prehensile, but they use it with much less address, in laying hold of objects, than the Four-fingered Monkey.

Of all the Monkeys of South America, these are the best able to support the rigour of our climate. If attended to with care, they will live comfortably in a room, without fire. Of this M. de Buffon mentions two instances; and he speaks of their affection towards their offspring as peculiarly interesting. A female that was kept at Bourdeaux, in the year 1764, produced there a young one. Nothing, he says, could be more beautiful than to see the two parents occupied with their little charge, which they teased incessantly, either by carrying it about, or by caressing it. The male loved it to distraction. They carried it alternately; but now and then, when it did not hold properly, they gave it a severe bite.

So gentle and domestic are these Monkeys, when treated kindly, that it is not necessary to keep them chained. But if they be permitted to range at liberty, their restless and curious or inquisitive disposition renders them occasionally very troublesome. They will

brown, and others grey. The legs, thighs, feet, and tail, are black. The face and ears are naked, and of a dark flesh-colour.

These Monkeys are extremely common in the woody districts of Cayenne and Surinam.

SYNONYMS. *Simia trepida*. Linn.—Le Sajou. Buffon.—Audebert.—Fearful Monkey. Pennant.—Bush-tailed Monkey. Edwards. Sajouassou, in South America.

break, tear, and upset almost every thing that lies in their way.

Their food is fruit, bread, or roots; and they will devour large insects of all kinds. They search eagerly after spiders, of which they are peculiarly fond. They are partial both to wine and spirits. It is said, that in Cayenne no other animals of the same tribe are such excellent guards of the houses as these. Some of them have been rendered so tame as to follow their master out of doors like a dog. They are, however, extremely whimsical in their attachments, entertaining for some persons great partiality, and for others the most decided aversion.

THE SQUIRREL-MONKEY*.

In his account of Surinam, Capt. Stedman informs us, respecting these Monkeys, that he saw them daily passing along the sides of the river, skipping from tree to tree, regularly following each other, like a little army, with their young ones at their backs, not unlike small knapsacks. Their manner of travelling is this: the foremost walks to the extremity of a bough, from which it bounds to the extremity of one belonging to the next tree, often at a surprising distance, and with such wonderful activity and precision, that it never once misses its aim: the others, one by one, and even the females with their little ones at their backs, which stick fast to

* **DESCRIPTION.** This animal is about the size of a Rabbit. The colour of its body is reddish, and the tail is black at the extremity. The fore-feet are orange-coloured. The head is very round, and the face milk-white, with a round black patch in the middle, in which are the mouth and nostrils. The eyes are black and lively.

SYNONYMS. *Simia Sciurea. Linnaeus.*—Orange Monkey. *Pennant.*—Caitaia. *Marcgrave.*—Le Siamiri. *Buffon.* *Audobert.* *Kessee-Kessee.* *Stedman.*—Squirrel Monkey. *Shaw.* *Shaw's Gen. Zool. Pl. 25.*

their mother, follow their leader, and perform the same leap with the greatest apparent facility and safety. They are also remarkable for climbing up the *nebees*, or natural ropes, with which many parts of the forests are interwoven.

*Anecdotes of some unascertained Species of
Monkeys.*

M. D'OBSONVILLE, speaking of the sanctuaries for Monkeys in several parts of India, says, that when travelling he has occasionally entered these ancient temples to repose himself, and that the animals were not in the least alarmed at his approach. He has seen several of them at first considering him, and then attentively looking at the food he was about to eat. Their eyes and agitation always painted their inquietude, their passion to gormandize, and the strong desire they had to appropriate at least a part of his repast to themselves.

In order to amuse himself on these occasions, he always took care to provide a quantity of parched peas. At first he would scatter a few on the side where the chief was, (for he says they have always a principal Monkey to head them,) and the animal would approach by degrees, and collect them with avidity. He then used to present his hand full; and, as they are in general accustomed to see none but pacific people, the chief would venture, but in a sideling manner, to approach, as if eagerly watching that there was no sinister contrivance. Presently, becoming bold, he would seize the thumb of the hand in which the peas were held, with one paw, and take the corn out with the other, keeping at the same time his eye steadily fixed on those of M. D'Obsonville. "If," continues this writer, "I

laughed or moved, he would break off his repast, and working his lips, would make a kind of muttering, the sense of which, his long canine teeth, occasionally shown, plainly interpreted. When I threw a few at a distance, he seemed satisfied that others should gather them; but he grumbled at, and sometimes struck, those that came too near me. His cries and solicitude, though in part, perhaps, the effect of greediness, apparently indicated his fear, lest I should take advantage of their weakness to ensnare them: and I constantly observed that those which were suffered to approach me nearest, were the well-grown and strong males; the young ones and the females were always obliged to keep at a considerable distance.

Monkeys are generally peaceable enough among each other. In extensive, solitary, and fertile places, herds of different species sometimes chatter together, but without disturbance or any confusion of the race. When, however, adventurous stragglers seem desirous of seeking their fortunes in places of which another herd is in possession, these immediately unite to sustain their rights. M. de Maisonpré, and six other Europeans, were witnesses to a singular contention of this nature, in the enclosures of the Pagodas of Cherinam. A large and strong Monkey had stolen in, but was soon discovered. At the first cry of alarm, many of the males united, and ran to attack the stranger. Though much superior both in size and strength to his opponents, he saw his danger, and ran towards the top of a pyramid, eleven stories high. Thither he was instantly followed; but when he had arrived at the summit of the building, which terminated in a small round dome, he placed himself firmly, and taking advantage of his situation, he seized three or four of the most hardy, and precipitated them to the bottom. These proofs of his prowess intimidated the rest, and, after much noise, they thought proper to retreat. The conqueror remained till evening, and then betook himself to a place of safety.

Their conduct towards such of their brethren as become captives is very remarkable. If one of them be chained in their neighbourhood, especially if of the society to which he belonged, they will attempt various means, for some time, to procure his liberty; but when their efforts prove ineffectual, and they see him daily submit to slavery, they will never again receive him among them, but even if he should escape, they will fall upon and beat him away without mercy.

When Captain Percival was at Columbo, there was a mischievous Monkey which was permitted to run wild about the fort, and was so very cunning that it was impossible to catch him. One day this animal suddenly made his entrance into the captain's apartment, carried off a loaf of bread from his table, and made its escape. He immediately gave the alarm to an officer whom he observed standing at the next door; upon which the officer ran in to secure his own breakfast; but, to his great mortification, he found that the Monkey had been beforehand with him, and was already scrambling up to the roofs of the houses, with a loaf in each paw. Next day the same Monkey snatched off a very fine parrot before the gentleman's face to whom it belonged, tore it to pieces, and then held it out to the gentleman, with many expressions of satisfaction and triumph at the exploit.

Condamine and Bouger saw, in Peru, some domesticated Monkeys of large size, which had been admitted into the apartments of the Academicians, during the time they were employed in making observations in the mountains. These animals greatly excited the astonishment of the Academicians, by afterwards, of their own

accord, going through a series of imitations. They planted the signals, ran to the pendulum, and then immediately to the table, as if for the purpose of committing to paper the observations they had made. They occasionally pointed the telescopes towards the heavens, as if to view the planets or stars, and performed numerous other similar feats.

An occurrence which took place before the troops of Alexander the Great, is too singular and too amusing to be passed over in silence. The soldiers under the command of this monarch always marched in order of battle. They happened, one night, to encamp on a mountain, that was inhabited by a numerous tribe of Monkeys. On the following morning they saw, at a distance, what appeared to be an immense body of troops approaching them, as if with the intention of coming to an engagement. The commanders, as well as the soldiers, were in the utmost astonishment. Having entirely subdued the princes of the country, they were not able to imagine from what quarter this new force could have come: they had not previously been informed of any thing of the kind. The alarm was immediately given, and in a short time the whole Macedonian army was drawn up in battle array, to combat with this unexpected foe. The prince of the country, who was a prisoner in the camp, was interrogated respecting it. He was surprised to be informed of such a force in the neighbourhood, and requested permission to behold it himself. He smiled at the error; and the Macedonians were not a little chagrined that they should have been such fools as to mistake a troop of these imitative animals for a band of armed men.

OF LEMURS IN GENERAL*.

In their habits and economy, as well as in their hand-like paws, the Lemurs have a very close alliance to the Monkeys. They principally differ from those animals in the shape of the head, which is somewhat like that of the Dog; and in the great length of their hind-legs. The latter, indeed, are so long, that, when the animals walk on all-fours, their haunches are considerably more elevated than the shoulders. But this structure is of astonishing advantage to them in climbing into trees. Many of the species are so wonderfully active, that they leap from branch to branch, with a rapidity which the eye is scarcely able to follow.

THE BENGAL LORIS, OR SLOW LEMUR†.

There are few quadrupeds so inactive, and so slow in their motions, as the Bengal Loris. Hence some naturalists have been induced to rank it amongst the Sloths, but it has no other resemblance whatever to the Sloth than this. It is a nocturnal animal, and sleeps, or

* The principal Linnæan characteristics of this tribe are four front-teeth in the upper jaw, the intermediate ones remote: six long, compressed, parallel teeth in the under jaw; the canine teeth solitary; and the grinders somewhat lobated.

The animals have one sharp claw on each hind foot; all their other nails are flat.

† See Plate i. Fig. 5.

DESCRIPTION. This animal is about the size of a small cat. It is of pale brown or mouse colour; the face is flattish, and the nose is somewhat sharp. The eyes are extremely prominent: they are surrounded with a circle of dark brown, and a stripe of the same colour runs along the middle of the back.

SYNONYMS. Lemur Tardigradus. Linn.—Tailless Macauco. Penn. Syn.—Loris. Buffon.—Le Loris paresseux. Audubert.—Thevangua, or Tatonneur. D'Obsonville.—Slow Lemur. Shaw.—Shaw's Gen. Zool. Pl. 23.

at least lies motionless, during the greatest part of the day.

The late Sir William Jones, in the fourth volume of the Asiatic Researches, has given us an extremely pleasing account of one of these little creatures.

"In his manners he was for the most part gentle, except in the cold season, when his temper seemed wholly changed; and his Creator, who made him so sensible of cold, to which he must often have been exposed even in his native forests, gave him, probably for that reason, his thick fur; which we rarely see on animals in these tropical climates. To me, who not only constantly fed him, but bathed him twice a week in water accommodated to the seasons, and whom he clearly distinguished from others, he was at all times grateful: but when I disturbed him in winter he was usually indignant, and seemed to reproach me with the uneasiness which he felt, though no possible precautions had been omitted to keep him in a proper degree of warmth. At all times he was pleased at being stroked on the head and throat, and he frequently suffered me to touch his extremely sharp teeth: but his temper was always quick; and when he was unseasonably disturbed, he expressed a little resentment, by an obscure murmur, like that of a Squirrel; or a greater degree of displeasure by a peevish cry, especially in winter, when he was often as fierce on being much importuned, as any beast of the woods.

"From half an hour after sun-rise to half an hour before sun-set, he slept without intermission, rolled up like a Hedgehog; and, as soon as he awoke, he began to prepare himself for the labours of *his* approaching day, licking and dressing himself like a cat; an operation which the flexibility of his neck and limbs enabled him to perform very completely: he was then ready for a slight breakfast, after which he commonly took a short nap: but when the sun was quite set, he recovered all his vivacity.

"His ordinary food was the sweet fruit of this country;

plantains always, and mangoes during the season; but he refused peaches, and was not fond of mulberries, or even of guaiavas: milk he lapped eagerly, but was content with plain water. In general he was not voracious, but he never appeared satisfied with grasshoppers; and passed the whole night, while the hot season lasted, in prowling for them. When a grasshopper, or any insect, alighted within his reach, his eyes, which he fixed on his prey, glowed with uncommon fire; and having drawn himself back to spring on it with greater force, he seized the prey with both his fore-paws, but held it in one of them while he devoured it. For other purposes, and sometimes even for that of holding his food, he used all his paws indifferently as hands, and frequently grasped with one of them the higher part of his ample cage, while his three others were severally engaged at the bottom of it; but the posture of which he seemed fondest was to cling with all four of them to the wires, his body being inverted. In the evening he usually stood erect for many minutes, playing on the wires with his fingers, and rapidly moving his body from side to side, as if he had found the utility of exercise in his unnatural state of confinement.

"A little before day-break, when my early hours gave me frequent opportunities of observing him, he seemed to solicit my attention; and if I presented my finger to him, he licked or nibbled it with great gentleness, but eagerly took fruit when I offered it; though he seldom ate much at his morning repast: when the *day brought back his night*, his eyes lost their lustre and strength, and he composed himself for a slumber of ten or eleven hours.

"My little friend was, on the whole, very engaging; and when he was found lifeless, in the same posture in which he would naturally have slept, I consoled myself with believing that he died without much pain, and lived with as much pleasure as he could have enjoyed in a state of captivity."

In the year 1755, M. D'Obsonville purchased one of

these animals in India. His voice was a kind of whistling by no means unpleasant. When his prey was attempted to be taken from him, his countenance changed to an appearance expressive of chagrin, and he inwardly uttered a tremulous, acute, and painful note. He was melancholy, silent, and patient. He generally slept during the day, with his head resting upon his hands, and his elbows between his thighs. But in the midst of this sleep, although his eyes were closed, he was exceedingly sensible to all impressions from without, and never neglected to seize whatever prey came inconsiderately within his reach. Though the glare of sun-shine was unpleasant to him, it was never observed that the pupils of his eyes suffered any contraction.

During the first month he was kept with a cord tied round his waist, which, without attempting to untie, he sometimes lifted up with an air of grief. M. D'Obsonville himself took charge of him, and at the beginning he was bitten four or five times for offering to disturb or take him up; but gentle chastisement soon corrected these little passions, and he afterwards gave the animal the liberty of his bed-chamber. Towards night the little creature would rub his eyes, then, looking attentively round, would climb upon the furniture, or more frequently upon ropes placed for the purpose.

Sometimes M. D'Obsonville would tie a bird in the part of the chamber opposite to him, or hold it in his hand, in order to invite him to approach: the animal would presently come near with a long, careful step, like a person walking on tiptoe to surprise another. When within a foot of his prey he would stop, and, raising himself upright, would advance, gently stretching out his paw; then, darting at it, would seize and strangle it with remarkable celerity.

This animal perished by an accident. He appeared much attached to his master, who always used to caress him after feeding. His return of affection consisted in taking the end of M. D'Obsonville's fingers, pressing them, and at the same time fixing his half-open eyes on those of his master.

THE MACAUCO, OR RING-TAILED LEMUR*.

Although these animals have been frequently brought into Europe from Madagascar and other islands of the East, yet we are almost wholly ignorant of their habits, except in a domesticated state. It has, however, been ascertained, that they are creatures of great activity; and that, like the rest of their tribe, they subsist chiefly on fruit, and inhabit trees, where they live in troops, forty or fifty in number.

A Macauco, which was kept in the Museum of Natural History in Paris, had been in Europe more than nineteen years; and from the great age which this animal attained, it is natural to conclude that the temperature of an European climate was suited to its habits. Such, however, does not seem to have been precisely the case. He appeared to suffer much from the cold, frequently rolling himself into a ball, and covering his back and head with his long and bushy tail. During the winter, he was always kept in a room that had a fire in it; and, frequently, for a long time together, he would sit before the fire, stretching out his little arms towards the flame to warm himself. Whenever he sat in the sun, he adopted the same attitude. He was so partial to heat, that he often even burnt his whiskers and face, before

* **DESCRIPTION.** The Macauco is about the size of a small cat. In its general form it is long and slender. The muzzle is pointed, and there is a black space round each eye. The ears are oval. The forehead is white; and the back of the head, sides of the neck, and shoulders, are blackish. The back, and the outsides of the legs, are of a brownish grey colour; and the throat, breast, and insides of the legs are whitish. The tail, which is very long and thickly covered with hair, is marked throughout its whole length with alternate black and white rings.

SYNONYMS. Lemur Catta. *Linnaeus*.—Le Mococo. *Buffon*.—Audebert.—Maucauco. *Edwards*.—Ring-tailed Macauco. *Pennant*.—Ring-tailed Lemur. *Shaw*.—*Shaw's Zoology*, Pl. 35, from *Buffon*.—*Bewick's Quadrupeds*, p. 442.

he would remove to a greater distance. When the heat incommoded him, he would turn the sides of his head, alternately, to the fire, in order to alleviate the pain thereby occasioned.

This animal had not been previously accustomed to a chain; and, consequently, when he was brought into the Museum, he was suffered to range about at freedom in the Conservatory. In this room were prepared the skins of such animals as were intended to enrich the collections; and the greatest attention was necessary to keep the creature out of mischief. Continually in motion, he handled and turned over almost every thing within his reach.

A board placed over the door served him for a bed. To this he retired at night, but never until he had first prepared himself for sleep, by at least half an hour's violent exercise, in leaping about the room. As soon as this was ended he would lie down on his bed, and, in a few minutes afterwards, was fast asleep.

His usual food was bread, carrots, and fruit; and he was particularly fond of the latter. He would also eat eggs; and, when young, was partial to baked meats and spirituous liquors. No creature could be more gentle than he, and on all occasions, he showed himself sensible of the kindnesses and attention he received. He exhibited no indications of particular attachment, but was familiar with every one; and would climb on the shoulders, or go to rest on the knees, of any person who would suffer him to do so.

Several of these animals have, at different times, been imported into England. A Macauco that was in the menagerie at the Tower of London, although he would suffer himself to be handled, never failed to resent any attempt to tease him. He exhibited much dislike to children, and, had he not been chained, would sometimes have attacked them. He usually sat on his haunches in an upright posture, with his tail elevated over his shoulders. Like the animal in the menagerie at Paris, he was extremely susceptible of cold; and,

though kept in a warm room, would come as near to the fire as possible. He did not usually sleep in the day-time; and at night would lie coiled up, with his head under his breast, and his long bushy tail wrapped closely round his body.

*The Indri** is an active and intelligent animal of this tribe. Although an inhabitant of deep forests, residing among the branches of the trees, and subsisting on vegetables and fruit, we are assured, by M. Sonnerat, that the Indri is so susceptible of education, that the natives of Madagascar are enabled to train it to the chase. This, if true, is a singular fact, as all other animals that are known to be employed in the chase, are themselves carnivorous, and have been endowed with a natural instinct to pursue and destroy.

The Mongous, or Woolly Macauco †. M. de Buffon possessed a Mongous during several years. For some time, at first, the animal was suffered to run at liberty about the house; but he became at length so troublesome that it was necessary to keep him chained. Whenever he escaped from his chain, he would visit the shops of the neighbourhood, and would devour fruit, sugar, and sweetmeats, opening with wonderful dexterity the boxes that contained them. At such times it was difficult to retake him, as he would bite severely even those whom he best knew.

Whenever this animal was weary of being left alone, he made a loud kind of noise, somewhat resembling the croaking of a frog. So fearful was he of cold and

* *Lemur Indri* of Linnæus.

† *Lemur Mongoz* of Linnæus.—*Shaw's Gen. Zool. Pl.* 32.—*Bew. Quad.* p. 444.

moisture, that he never willingly moved far from the fire. His chief food consisted of bread and fruits. His tongue was so rough that he could lick a person's hand until it became inflamed; and, if not guarded against, he would generally end this operation with a bite. This animal died of cold, in the winter of 1750, although, during the whole time, he had been kept in a perfectly warm place.

OF BATS IN GENERAL*.

These very singular animals would seem, at first sight, to hold a kind of middle station between the quadrupeds and birds. It is, however, only in their power of raising themselves into the air, by means of the membranes which extend round their body, that they are in the least allied to the latter.

Their structure cannot be contemplated without admiration. The bones of their fore-feet are continued into long and thin processes, connected by a most delicately-formed membrane or skin, capable, from its thinness, of being contracted at pleasure into innumerable wrinkles, so as to lie in a small space when the animal is at rest, and to be stretched to a very wide extent for flight. Should a speculative philosopher, not aware of the anatomical impossibility of success, attempt, says Dr. Shaw, by means of light machinery, to exercise the power of flight, he could not hit on a more plausible idea than that of copying the structure described. Accordingly, a celebrated author has represented a sage theorist busied in imitating, for this purpose, "the folding continuity of the wing of the Bat."

Although this membrane enables the Bat, after it has once raised itself from the ground, to flit along the air,

* Bats have erect, sharp-pointed teeth, situated near together. Their fore-toes are elongated, and connected by the membranes which perform the office of wings. *Linn.—Gmel.* i. 45.

yet all its motions, when compared with those of birds, are clumsy and awkward; and, in walking, its feet appear so entangled with its wings, that it seems scarcely able to drag its body along.

THE COMMON BAT*, LONG-EARED BAT†, NOCTULE BAT‡,
BARBASTELLE BAT||, AND HORSE-SHOE BAT§.

The British Bats generally pass the winter, during the

* **DESCRIPTION.** The Common Bat is about the size of a small mouse, and measures nearly nine inches from tip to tip of its wings. The ears are short, and have each a small inner valve. The eyes are very minute. The colour of the fur is somewhat that of the common mouse, with a slightly reddish tinge.

SYNONYMS. *Vespertilio murinus.* *Linnaeus.*—Le Chauve Souris. *Buffon.*—Common Bat. *Pennant.*—Little Bat. *White.*—*Bingley's Memoirs of British Quadrupeds*, Pl. 1.

† **DESCRIPTION.** This animal resembles the last, except that its ears are nearly half as long as the body, and that the inner valves are large and conspicuous.

SYNONYMS. *Vespertilio auritus.* *Linnaeus.*—L'Oreillard. *Buffon.*—Long-eared Bat. *Pennant.*—*Bingley's Memoirs of British Quadrupeds*, Pl. 2.

‡ **DESCRIPTION.** The length of the Noctule Bat is about 5½ inches to the tip of the tail, and the breadth of the expanded membranes is 14½ inches. The ears are short, broad, and rounded; and the inner valves small. The fur is nearly of a chestnut colour.

SYNONYMS. *Vespertilio noctula.* *Linnaeus.*—La Noctule. *Buffon.*—Great Bat. *Pennant.*—Noctule Bat. *Shaw.*—*Bingley's Memoirs of British Quadrupeds*, Pl. 3.

|| **DESCRIPTION.** The Barbastelle Bat is somewhat larger than the two first species. On the muzzle there is a naked, hollow, or sunken mark. The ears are large, and so broad that their inner edges touch each other over the nose. The inner valves are conspicuous. The colour of the fur is a blackish brown.

SYNONYMS. *Vespertilio barbastellus.* *Linn.*—La Barbastelle. *Buffon.*—Barbastelle Bat. *Shaw.*—*Bingley's Memoirs of Brit. Quad.* Pl. 4.

§ **DESCRIPTION.** The length of the Horse-shoe Bat is 3½

absence of their insect prey, in a torpid state, without either food or motion, suspended in some dark place, in old ruins, caverns, or in the hollows of decayed trees. During the time they remain in this state, most of the animal functions are so far suspended as scarcely to be perceptible. The action of the heart and arteries becomes so exceedingly languid, that the pulse can hardly be felt: if respiration be at all carried on, it is also so very slow as scarcely to be discernible. The natural temperature, or animal heat, sinks greatly below the usual standard; and digestion becomes altogether suspended. All the visible excretions are at a stand; and none of the functions seem to go on, excepting a very slow degree of nutrition, and an interchange of old for new matter, in the depository cells of the body.

Like the mouse, these animals are capable of being tamed to a certain degree; and we are told by Mr. White, that he was once much amused by the sight of a Bat that would take flies out of a person's hand. "If," says he, "you gave it any thing to eat, it brought its wings round before its mouth, hovering and hiding its head in the manner of birds of prey when they feed. The adroitness it showed in shearing off the wings of flies, (which were always rejected,) was worthy of observation. Insects seemed to be most acceptable, though he did not refuse raw flesh when offered; so that the notion that Bats go down chimneys and gnaw people's bacon, seems, upon the whole, no improbable story." While Mr. White amused himself with this

inches to the tip of the tail, and the breadth of the expanded membranes about 14 inches. On the face there is a pointed membraneous appendage, somewhat in the form of a horse's shoe, which surrounds the nose and upper lip. The ears are about the length of the head, sharp-pointed, and have no inner valves. The fur is of a deep cinereous colour on the upper parts, and whitish below.

SYNONYMS. *Vespertilio ferrum-equinum*. *Linnaeus*.—*Le Chauve-souris à fer-à-cheval*. *Buffon*.—Horse-shoe Bat. *Pennant*.—*Bingley's Mem. of Brit. Quad. Pl.* 5.

quadruped, he saw it several times confute the vulgar opinion that Bats, when on a flat surface, cannot get on wing again; for it rose with great facility from the floor.

From experiments made by Spallanzani, on the Long-eared, the Horse-shoe, and the Noctule Bats, it appears that these animals possess some additional sense, which enables them, when deprived of sight, to avoid obstacles as readily as when they retained the power of vision. After their eyes had been covered, or even when they were put entirely out, they would fly about in a darkened chamber, without ever striking against the walls, and would always suspend their flight, with caution, when they came to a place where they could perch. In the middle of a dark sewer, that turned at right angles, they would, though at a considerable distance from the walls, regularly bend their flight with the greatest nicety. When branches of trees were suspended in a room, they always avoided them; and flew betwixt threads hung perpendicularly from the ceiling, though these were so near each other that they had to contract their wings in passing through them. M. Jurin supposes that the sense which enables the Bats to perform these unaccountable operations, is lodged in the expanded nerves on the nose; but, in several of the species, the membrane in which these nerves end is wanting. Some persons have supposed that this power of avoiding obstacles in the dark is dependent principally on the ears; for, when the ears of the blinded Bats were closed, they flew against the sides of the room, and did not seem at all aware of their situation.

Several Bats were collected by Mr. Carlisle, for the purpose of the above experiments, and they were preserved in a box for more than a week. They refused every kind of food for several days. During the day-time they were extremely desirous of retirement and darkness, and, while confined to the box, they never moved or endeavoured to get out while it was light. Even when they were put out on the carpet, they

commonly rested for a few minutes, and then, beginning to look about, crawled slowly to some dark corner or crevice. At sunset the scene was quite changed; every one then endeavoured to scratch its way out of the box; a continued chirping was kept up, and no sooner was the lid of the prison opened, than each was active to escape, either flying away immediately, or running nimbly to a convenient place for taking wing. When these Bats were first collected, several of the females had young ones clinging to their breasts in the act of sucking. One of them flew with perfect ease, though two little ones were thus attached to her, which weighed nearly as much as their parent. All the young ones were devoid of down, and of a black colour.

From Linnæus we learn, that the female makes no nest for her offspring. She is content with the first hole she finds, where, sticking herself by her hooks against the sides of her apartment, she permits her young ones to hang at the nipple, and in this manner continues for the first or second day. When, after some time, she begins to grow hungry, and finds it necessary to go abroad in search of food, she takes her little ones off and sticks them to the wall, in the same manner that she had herself before hung: there they immovably cling, and patiently wait her return.

Bats, it is said, may be caught by throwing into the air the heads of burdock, whitened with flour: either mistaking these for prey, or dashing casually against them, they are caught by the hooked prickles, and brought to the ground*.

* I have inserted a copious account of the habits and economy of each of the species of British Bats, in "Memoirs of British Qadrupe^ds."

THE VAMPIRE BAT*.

The specific denomination of Vampyre has been given by naturalists to this tremendous species of Bat, from the circumstance of its reputed propensity to suck the blood of men and animals during their sleep. There is, however, reason to imagine that this thirst for blood is not confined to a single species, but that it is common to several of the large kinds of Bats, which are inhabitants of hot climates.

We are informed that the Bats of Java seldom fail to attack such persons as lie in the open air with their extremities uncovered; and that persons thus attacked, have sometimes nearly passed from sleep to death. It is stated that the Bats are so dexterous in this operation, that they can insinuate their aculeated tongue into a vein, and continue to draw the blood, without being perceived; and that, during all the time they are thus engaged, they agitate the air with their wings in so pleasing a manner, as to throw the sufferer into a still sounder sleep than he was before. Notwithstanding this propensity for blood, it is asserted that they also subsist on the juices of different kinds of fruit; and that, in particular, they are so partial to the juice of the

* **DESCRIPTION.** The usual length of the Vampyre Bat is from nine inches to a foot, and the extent of its wings is sometimes four feet and upwards. Its general colour is a deep reddish brown. The head is shaped somewhat like that of a fox. The nose is sharp and black; and the tongue pointed, and terminated by sharp prickles. The ears are naked, blackish, and pointed; and the membranes of the wings are similar in colour to those of the Common Bat.

This animal is a native of Guinea, of Madagascar, and of other islands in the Indian Ocean.

SYNONYMS. *Vespertilio vampyrus.* *Linnaeus.*—La Roussette. *Buffon.*—Ternate Bat. *Pennant.*—Great Bat. *Edwards.*—Pero volader, in New Spain.—Der Blutsauger, in Germany.—*Shaw's Gen. Zool. Pl. 44.*

palm-tree, that they will sometimes intoxicate themselves with it, until they fall senseless to the ground.

During the day-time these animals lie concealed in the hollows of decayed trees, or suspend themselves to the branches by their claws; and towards the close of evening they issue forth in flights, even more numerous than those of crows in Europe. We are informed by Finch, in his quaint style of writing, that "they hang to the boughs of trees, near Surat, in the East Indies, in such vast clusters, as would surprise a man to see; and the noise and squealing they make is so intolerable, that 'twere a good deed to bring two or three pieces of ordnance, and scour the trees, that the country might be rid of such a plague as they are to it." In a small island, one of the Philippines, Dampier tells us that he saw an incredible number of Bats, so large that none of his company could reach from tip to tip of their wings. In the evening, as soon as the sun was set, he says, these animals used to take their flight in swarms, like bees, to a neighbouring island: and that they were seen to continue in immense numbers, till darkness rendered them no longer visible. The whole of the time from day-break in the morning till sun-rise, they occupied in returning to their former place; and this course they constantly pursued all the time the ship was stationed off that island.

At Rose Hill, near Port Jackson, in New Holland, it is supposed that more than *twenty thousand* of these animals were seen within the space of a mile. Some that were caught alive would, almost immediately afterwards, eat boiled rice and other food from the hand; and in a few days became as domestic as if they had been bred in the house. Governor Philip had a female, which would hang by one leg a whole day without changing its position, and in that pendant situation, with its breast neatly covered with one of its wings, would eat whatever was offered to it, lapping from the hand like a cat. Vampire Bats have sometimes been brought alive into England; but they are so tender that

they do not long survive the chilly temperature of our climate.

The smell of these creatures is more rank and powerful than that of a fox; yet the Indians eat them, and declare their flesh to be excellent food. They become excessively fat at certain times of the year, and it is then that they are said to be the most delicious. The French who reside in the Isle of Bourbon, boil them in their soup, *to give it a relish!*

In New Caledonia the natives use the hair of these animals in the making of ropes, and for the tassels of their clubs; interweaving it with the threads of *Cyperus squarrosus*.

THE SPECTRE BAT*.

In no material respect do the habits and economy of these animals, natives chiefly of South America, and of some of the islands in the Pacific Ocean, appear to differ from those of the species last described. Their thirst for blood has been distinctly ascertained by numerous travellers. M. de Condamine says, respecting them, that "the Bats which suck the blood of horses, mules, and even of men, when not guarded against by sleeping under the shelter of a pavilion, are a scourge to most of the hot countries of America." At Borja, and several other places, he states, that they had destroyed even the great cattle which had been introduced there by the missionaries.

* See Plate ii. Fig. 1.

DESCRIPTION. The length of the Spectre is about six inches; and the extent of its wings, two feet. On the nose there is an upright, pointed, lanceolate and funnel-shaped membrane. The colour of the fur is cinereous. The ears and wing-membranes are naked and blackish.

SYNONYMS. *Vespertilio Spectrum*. *Linnaeus*.—Le Vampire. *Buffon*.—Spectre Bat. *Pennant*.—*Shaw's Gen. Zool. Pl.* 43, from *Schreber's Mammalia*.

Captain Stedman, whilst sleeping in the open air in Surinam, was attacked by one of these Bats. On awaking, about four o'clock in the morning, he was extremely alarmed to find himself weltering in congealed blood, and without feeling any pain. Having started up, he ran to the surgeon, with a fire-brand in his hand, and all over besmeared with gore. The cause of his alarm was however soon explained. After he had applied some tobacco-ashes to the wound, and had washed the gore from himself and his hammock, he examined the place where he had lain, and observed several small heaps of congealed blood upon the ground; on examining which, the surgeon judged that he had lost at least twelve or fourteen ounces. Captain Stedman says that these animals, knowing by instinct that the person they intend to attack is in a sound slumber, they generally alight near the feet, where, while the creature continues fanning with his enormous wings, which keep the person cool, he bites a piece out of the tip of the great toe, so very small, that the head of a pin could scarcely be received into the wound, and which is consequently not painful. Yet, through this orifice he sucks the blood, until he is obliged to disgorge. He then begins again, and thus continues sucking and disgorging till he is scarcely able to fly; and the sufferer has often been known to sleep from time into eternity. The Spectre Bats generally bite in the ear, but always in places where the blood flows spontaneously.

These animals, it is said, will frequently hang to one another in vast clusters, like swarms of bees. Mr. Forster assures us, that he has seen at least five hundred of them suspended, some by their fore, and others by their hind legs, in a large tree, in one of the Friendly Islands.

Bruta*.



OF THE SLOTHS IN GENERAL†

All the species which constitute the present tribe are unparalleled in the rest of the animal creation, for slowness and inactivity. Their feet are furnished with strong hooked claws, to enable them to climb into trees, where their voracity leads them to devour both the leaves and fruit. Their eyes are languid and heavy, and their whole countenance expresses so much misery, that no one can look upon them without pity. Their teats are seated on the breast; and, in two of the species, it is a remarkable circumstance, that, instead of distinct excretory apertures, there is but one common canal, as in birds.

Only three species of Sloth have hitherto been discovered, two of which are found chiefly in South America.

THE THREE-TOED SLOTH‡.

Of the Three-toed Sloth there is extant a very curious, though often-quoted account, written by Kircher,

* The animals belonging to this order have no front-teeth in either jaw. Their feet are armed with strong, blunt, and hoof-like nails. Their form is in appearance clumsy, and their pace somewhat slow. No animals belonging to this order are natives of Europe.

† The Sloths have no cutting teeth in either jaw: the canine-teeth are obtuse; and there are five grinders on each side. Their fore-legs are much longer than the hind ones; and the body is covered with hair, and not with scales, as in the Armadillo, and Manis.

‡ See Plate x. Fig. 1.

DESCRIPTION. In its general appearance this animal is extremely uncouth. The body is thick, the fore-legs are short,

principally from the authority of a Provincial of the Jesuits, who had been resident in South America, and who, having at different times had several of these animals in his possession, had tried several experiments with them relative to their nature and properties. The figure of the Three-toed Sloth, is (he says) extraordinary. This animal is about the size of a cat, has a very ugly countenance, and has its claws extended like fingers. It lives generally on the tops of trees; and if these be at all lofty, it sometimes occupies two whole days in crawling up, and as many in getting down again. Providence has doubly guarded it against its enemies; first, by giving it such strength in its feet, that whatever it seizes it holds with astonishing tenacity: secondly, in having given it such an affecting countenance, that, when it looks at any one who might be tempted to do it an injury, it is almost impossible not to be moved with compassion: it also sheds tears, and upon the whole persuades one that a creature so defenceless and so abject ought not to be tormented.

The Provincial had one of these animals brought to the Jesuits' College at Carthagena. He put a long pole under its feet: this it seized very firmly, and would not let go again. The animal, thus voluntarily suspended, was placed between two beams, and there remained

and the hinder ones far longer. The feet are small, but armed with three excessively strong and large claws, of a curved form, and sharp-pointed. The head is round, and the face short and naked. The eyes are small, black, and round. The hair on the top of the head projects over, and gives to the animal a very peculiar and grotesque physiognomy. Its general colour is a greyish brown; and the hair is long and coarse, covering the body, particularly about the back and thighs, very thickly.

It is a native of South America.

SYNONYMS. *Bradypus tridactylus*. *Linnaeus*.—Sloth. *Edwards*.—Leyart. *Nicubof*.—Haut. *Nieremb*.—L'Ai. *Buffon*.—Three-toed Sloth. *Penn*.—*Shaw's Gen. Zool. Pl.* 45.—*Bew. Quad.* p. 493.

without food for forty days, its eyes being always fixed on those who looked at it. At length it was taken down, and, with great cruelty, a dog was let loose on it. This dog, the Sloth seized in its claws, and held fast until both the animals died of hunger.

In ascending the trees, the Sloth first stretches one of its paws, and fixes its long claw as high as it can reach. It then heavily raises its body, and gradually fixes the other paw; and in this manner continues to climb, every motion being incredibly slow and languid. When the Sloth once gets into a tree, we are told that it will not descend while a leaf or bud is remaining; and, in order to save the slow and laborious descent which it would otherwise be obliged to make, it sometimes suffers itself to fall to the ground, its tough skin, and thick, coarse hair, sufficiently securing it from injury. Occasionally the Sloths will suspend themselves by their claws from the branches of trees, and, thus hanging, a branch may be cut off, and they will fall with it rather than quit their hold. A Sloth that was taken by some person who went out in the expedition under Woodes Rogers, was brought on board the ship, and put down at the lower part of the mizen shrouds. It climbed to the mast-head; but occupied two hours in what a monkey would have performed in less than half a minute. It proceeded with a very slow and deliberate pace, as if all its movements had been directed by machinery.

These animals are always most active during the night, at which time they utter their plaintive cry, ascending and descending in perfect tune, through the hexachord, or six successive musical intervals. When the Spaniards first arrived in America, and heard this unusual noise, they fancied they were near some nation, the people of which had been instructed in European music.

When kept in a house, the Sloth never rests on the ground, but always climbs upon some post or door to repose. If a pole be held out to one of these animals

when on the ground, it will immediately lay hold of it; and, if this be afterwards fixed upright, will climb to the top, and there firmly adhere.

THE TWO-TOED SLOTH*.

This animal, although heavy and excessively awkward in its motions, has sufficient activity to ascend into and descend from the loftiest trees, several times in the course of a day. Like the last species, he is chiefly alert in the evenings and during the night.

The Marquis de Montmirail, some years ago, purchased one of these animals at Amsterdam. It had been fed with sea-biscuit, but he was told, that, as soon as the winter was over, and the verdure began to appear, it would require nothing but leaves. The creature was consequently supplied with leaves. These he ate freely while they were green and tender; but the moment they began to be dry, shrivelled, or worm-eaten, he refused them. During the three years that the marquis had him, his common food was bread, apples, roots, and milk; but he was so heavy and inanimate, that he did not even recognize the hand that fed him.

The most natural position of this animal, and which he preferred to all others, was that of suspending himself on the branch of a tree, with his body downward. He sometimes even slept in this position, his fore-claws fastened nearly on the same point, and his body describing the figure of a bow. The strength of his muscles was almost incredible; but this became useless to him when he walked.

* DESCRIPTION. The Two-toed Sloth is considerably larger than the preceding species, and differs from it principally in having only two claws on each of its fore feet.

It is native of Ceylon and the East Indies.

SYNONYMS. *Bradypus didactylus*. *Linnaeus*.—L'Unau. *Buffon*.—Two-toed Sloth. *Pennant*.—*Shaw's Gen. Zool. Pl.* 46.

OF THE ANT-EATERS IN GENERAL.

The Ant-eaters, as they subsist entirely on insects, have no teeth. Their tongue, which is long, worm-like, and covered with a kind of glutinous moisture, is the only instrument by which they seize their food. Instead of teeth, they have, however, certain bones, not unlike teeth, that are situated deep in the mouth, near the entrance of the gullet. The mouths of the whole tribe are lengthened into a somewhat tubular form.

THE GREAT ANT-EATER*.

The food of this very singular animal consists principally of Ants, and these he obtains in the following manner. When he comes to an Ant-hill, he scratches it up with his long claws, and then unfolds his slender tongue, which much resembles an enormously long worm. This being covered with a clammy matter or saliva, the Ants adhere to it in great numbers: then, by drawing it into his mouth, he swallows thousands of them alive; and he repeats the operation till no more are to be found. He also tears up the nests of woodlice, which he in like manner discovers; and frequently climbs trees in quest of these insects, and of wild bees

* See Plate x. Fig. 2.

DESCRIPTION. The body of the Great Ant-eater is covered with exceedingly coarse and shaggy hair. Its head is very long and slender, and the mouth but just large enough to admit its tongue, which is cylindrical, nearly two feet in length, and lies folded double within it. The tail is of enormous size, and covered with long, black hair, somewhat like the tail of a horse. The whole animal, from the end of the snout to the tip of the tail, is sometimes eight or nine feet in length.

SYNONYMS. *Myrmecophaga Jubata.* Linn.—*Tamandua guacu.* Marcgrave.—*Tamanoir.* Buffon.—Great Ant-eater. Penn.—*Shaw's Gen. Zool. Pl.* 49.—*Bew. Quad. p.* 495.

or their honey. But should he meet with little success, in his pursuit of food, he is able to fast for a considerable time, without inconvenience.

The motions of the Ant-eater are in general very slow. He, however, swims over great rivers with sufficient ease; and, on these occasions, his tail is always thrown over his back. With this extraordinary member, when asleep, or during heavy showers of rain, the animal also covers its back; but at other times he trails it along, and sweeps the ground.

It is said that these animals are tameable, and that, in a domestic state, they will pick up crumbs of bread, and small pieces of flesh. They are natives of Brazil and Guiana. The females have one young-one at a birth; and this does not arrive at maturity till it is four years old.

When on the ground, the Ant-eater moves with much apparent awkwardness, always resting on the heel of its long feet. But it is able to climb with great ease. Though destitute of teeth, and generally inclined to shun contention, yet, when it is attacked, and its passions are roused, it is a fierce and dangerous antagonist. If it can once seize its enemy within the grasp of its fore-feet, it fixes the claws into his sides, and both fall together; and it frequently happens that both perish; for the perseverance of the Ant-eater is so obstinate, that it will not extricate itself even from a dead adversary. Such is its strength, that even the panthers of America are often unequal to it in combat.

OF THE MANIS TRIBE*.

In their general external appearance, these animals greatly resemble the lizards. Their form, and the scales

* These animals have no teeth. Their mouth is long and tubular, and the tongue cylindrical and extensile. The body is covered on the upper parts with scales; and, beneath, it is either naked or clad with hair.

with which all the upper parts of their body are covered, would induce a casual observer to believe that they were really allied to the reptile tribes. This, however, is by no means the case: they are truly mammiferous animals, bringing forth living offspring, and nourishing them in the same manner as other quadrupeds.

THE LONG-TAILED MANIS*, AND THE SHORT-TAILED
MANIS†.

The scales with which the bodies of these extraordinary creatures are covered, are not attached to the skin by their whole under surface, but only by their lower extremity; and thus, like the quills of the porcupine, they are moveable at pleasure. When exasperated, the animals erect them; and when attacked, they roll themselves into a ball, and present to their enemy a surface armed on every side. The scales are sharp at the points, and of a substance so hard, that, on collision, they will strike fire like flint.

To escape from their foes by swiftness of foot would be utterly impracticable; and their Creator has not endowed them with powers for offensive resistance; but,

* See Plate vii. Fig. 1.

DESCRIPTION. This animal is very long and slender. It sometimes measures nearly five feet in length, from the tip of its nose to the extremity of the tail. All the upper parts of its body and tail are covered with broad, but sharp-pointed scales, of a deep brown colour, with a glossy or polished surface. The under parts are clad with hair. On each of the feet there are four toes.

SYNONYMS. *Manis tetradactyla*. *Linnaeus*.—*Le Phantagin*. *Buffon*.—Phantagen, in India.—*Shaw's Gen. Zool. Pl.* 55.

† **DESCRIPTION.** The short-tailed Manis is much thicker in proportion to its length than the last species: the tail also is considerably shorter; and on each of the feet there are five toes. This animal sometimes grows to the length of six feet and upwards.

SYNONYMS. *Manis pentadactyla*. *Linnaeus*.—*Le Pangolin*. *Buffon*.—Pangulling, in Java.—*Shaw's Gen. Zool. Pl.* 56.

when they thus act on the defensive, no animal whatever is able to overcome them. The tiger and panther may tread upon, may roll them about, and attempt to devour them; but all their efforts are vain, and where they expected an easy prey, they find only weapons which wound them in every attempt to obtain it. Of all the quadrupeds, without excepting even the porcupine, the armour of the *Manis* is the strongest, and at the same time the most offensive.

The mode in which these animals feed, is similar to that of the Ant-eaters. Their tongue, which is long, cylindrical, and covered with a viscous fluid, is the instrument by which their subsistence is derived. They lie down in places frequented by insects; and, extending their tongue upon the ground, the insects are attracted by the moisture, and eagerly run upon it in great numbers. When the animal finds that it is sufficiently covered, he suddenly withdraws it and swallows his prey.

Both the species of *Manis* are natives of Africa and the East Indies. The Negroes eat their flesh, which is white, and considered by them as delicate food. The scales are used for various purposes.

OF THE ARMADILLO TRIBE*.

Instead of hair, the body of the Armadillo is covered with a kind of plate armour. And as, in its structure, the *Manis* reminds us of the lizards, so the shell with which the Armadillo is clad, presents us with at least a distant resemblance of the tortoise. These are inoffensive animals. They are natives almost exclusively of the New Continent: they live in burrows or holes

* These animals are destitute both of cutting and canine teeth; but they have several grinders. They are distinguished from each other by the number of flexible bands of which their shell is composed.

which they form in the ground; and feed on roots, fruit, vegetables, and insects.

THE THREE-BANDED ARMADILLO*.

When the Armadillo is in danger of being attacked by its enemies, it rolls itself up in the manner of the hedge-hog, withdrawing its head, tail, and legs; and, except its nose, leaving nothing but the shell in view. In this position it sometimes resembles a large ball, flattened at the sides; and, thus defended, it continues till the danger is past, and frequently for a long time afterwards. If the animal happen to be near a precipice, it will sometimes roll itself over; and in this case, says Molina, in his natural history of Chili, it generally falls to the bottom unhurt.

These creatures, like swine, root up the earth in search of food. They live in burrows, which they dig in the ground, and which they seldom quit, except during the night. Although they are natives of the hot climates of America, they will live in temperate regions. M. de Buffon saw one in Languedoc, which was fed in the house, and went about every where without doing any mischief.

The Armadillos walk quickly, but they can neither

* See Plate x. Fig. 3.

DESCRIPTION. The Three-banded Armadillo is about twelve inches long, and eight broad, exclusive of the tail, which is two inches in length. The body is nearly covered with a shell: this, on the shoulders and rump, consists of five cornered pieces, very regularly arranged; and round the body are three belts of shell, composed of square or oblong pieces, having on each several scales of a yellowish white colour. All the pieces of this armour are connected by a membrane, like the joints in the tail of a lobster; and they slide so easily over each other, as to allow of free motion to the limbs.

SYNONYMS. *Dasyus Tricinctus.* *Linnaeus.*—Tatou, or Armadillo. *Red. exper.*—Tatu apara. *Marcgrave.*—Tatu. *Seba.*—Apara. *Kerr.*—*Shaw's Gen. Zool.* Pl. 57.

leap, run, nor climb into trees; so that they cannot escape those who pursue them. In case of pursuit, they have seldom any resource except to hide themselves in their holes; but, if these be at too great a distance, they dig a hole before they are overtaken. And such is the strength of their snout and the claws of their fore-feet, that in a few moments they are able to conceal themselves. Sometimes, however, before they can become quite concealed, they are caught by the tail; and then they resist so powerfully, that the tail often breaks short off, and is left in the hands of the pursuers. To avoid this the hunter has recourse to artifice; and, by tickling the animal with a stick, it loses its hold, and suffers itself to be taken without further trouble. When caught, the Armadillo rolls itself into a ball, and will not again extend itself unless placed near the fire.

These animals are hunted with small dogs, which are trained by the Indians for this purpose. The hunters know when they are concealed in their holes, by the number of flies which then hover round; and their usual mode of forcing them out is by smoking the burrows, or pouring in water. If they begin to dig, the animal digs also; and, by throwing the earth behind it, so effectually closes up the hole, that the smoke cannot penetrate.

The females of this species are very prolific. They breed three or four times in the year, and produce several young ones at a birth. The Indians are extremely partial to the flesh of Armadillos as food; and they apply the shells to various uses. Chiefly, however, they paint them of different colours, and make them into baskets, boxes, and other small utensils.

THE RHINOCEROS TRIBE.

We now come to a race of animals of huge size and bulk, inhabitants only of tropical climates. They are dull and sluggish in their manners; but in their dispo-





Litho del. et sculp.

1, Rhinoceros. 2, Civet. 3, Ichneumon. 4, Nyl Chau.

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sition, they are in general inoffensive and peaceable. They have on the nose a solid, conical horn, not fixed in the bone: this is never shed, but remains during life. Their skin is tuberculated and exceedingly hard, but on the under parts of the body it is sufficiently tender to be cut through with a knife. The general internal structure of these animals corresponds with what is observed in the horse.

THE SINGLE-HORNED OR COMMON RHINOCEROS*.

The Single-horned Rhinoceros is not exceeded in size by any land animal except the elephant, and in strength and power he gives place to none. His nose is armed with a formidable weapon, a hard and solid horn, sometimes more than three feet in length, and, at the base, eighteen inches in circumference; and with this he is able to defend himself against the attack of every ferocious animal.

The body of the Rhinoceros is defended by a skin so hard as to be impenetrable, except in the under parts, by either a knife or spear. It is said, that, even to shoot a full-grown Rhinoceros of advanced age, it is necessary

* See Plate ii. Fig. 1.

DESCRIPTION. The length of the Rhinoceros is usually about twelve feet, and this is also nearly the girth of his body. The skin, which is of a blackish colour, is disposed, about the neck, into large plaits or folds. A fold of the same kind passes from the shoulders to the fore-legs; and another from the hind part of the back to the thighs. The skin is naked, rough, and covered with a kind of tubercles, or large callous granulations. Between the folds, and under the belly, it is soft, and of a light rose-colour. The ears are moderately large, upright, and pointed. The eyes are small, and so situated that the animal can only see what is nearly in a direct line before him.

The Rhinoceros is a native of India, Ceylon, Java, Sumatra, and several parts of Ethiopia.

SYNONYMS. *Rhinoceros unicornis.* *Linnaeus.*—*Rhinoceros.* *Buffon, Pennant, &c.*—*Shaw's Gen. Zool. Pl. 60.*—*Brew. Quad. p. 175.*

to use iron bullets, as those of lead are sometimes flattened by striking against the skin.

The upper lip of this animal answers, in some measure, the same purpose as the trunk of the elephant. It protrudes over the lower one in the form of a lengthened tip; and, being extremely pliable, is used in catching hold of the branches of trees and shrubs, and delivering them into the mouth.

Although the Rhinoceros is generally of a quiet and inoffensive disposition, yet when this animal is attacked or provoked he becomes extremely dangerous; and he is sometimes subject to paroxysms of fury, which nothing can assuage.

In the year 1743, a Rhinoceros was brought from Bengal into Europe. He was at this time only two years old, and the expense of his food and journey amounted to nearly 1000*l.* sterling. He had every day, at three meals, seven pounds weight of rice, mixed with three pounds of sugar; besides hay and green plants: he also drank large quantities of water. In his disposition he was sufficiently peaceable, readily permitting all parts of his body to be touched. When he was hungry, or was struck by any person, he became mischievous, and nothing would appease him but food.

Another of these animals, which was brought from Atcham, in the dominions of the king of Ava, was exhibited at Paris in the year 1748. He was tame, gentle, and even caressing; was fed principally on hay and corn, and was much delighted with sharp or prickly plants, and the thorny branches of trees. The attendants frequently gave him branches that had sharp and strong thorns on them; but he bent and broke them in his mouth without seeming to be in the least incommoded. It is true they sometimes drew blood from the mouth and tongue; "but that," says Father le Compte, who gives us the description, "might even render them the more palatable, and these little wounds might serve only to cause a sensation on the palate similar to that excited by salt, pepper, or mustard on ours."

As an equivalent for a very dull sight, the Rhinoceros has a most acute and attentive ear. He has also the power of running with great swiftness; and, from his enormous strength and his impenetrable covering, he is capable of rushing with resistless violence through the woods; the smaller trees bending like twigs as he passes them. In his general habits and manner of feeding the Rhinoceros resembles the elephant: he resides in cool, sequestered spots, near waters, and in shady woods. Like the hog, he delights in occasionally wallowing in the mire.

The flesh of this animal is an article of food in some parts of Ceylon, Java, and Sumatra. The skin, flesh, hoofs, teeth, and even the dung, are each used medicinally. The horn, when cut through the middle, is said to exhibit, on each side, the rude figure of a man; the outlines being marked by small white strokes. Many of the Indian princes drink out of cups made of this horn; erroneously imagining that, when these hold any poisonous draught, the liquor will ferment till it runs quite over the top. Martial informs us, that the Roman ladies of fashion used these horns in the baths, to hold their essence-bottles and oils. The Javanese make shields of the skin.

The only three animals of this species that have been brought into England during the last half century, were all purchased for the exhibition-rooms at Exeter 'Change. One of them, of which the skin is still preserved, came from Laknaor, in the East Indies, and, in 1790, was brought in the Melville Castle East Indiaman, as a present to Mr. Dundas. This gentleman, however, not wishing to have the trouble of keeping him, gave the animal away; and not long afterwards, he was purchased by Mr. Pidcock, of Exeter 'Change, for the sum of 700*l*. This animal exhibited no symptoms of a ferocious propensity, and would even allow himself to be patted on the back and sides by strangers. His docility was about equal to that of a tolerably tractable pig: he would obey the orders of his keeper, to walk about the

room, and exhibit himself to the numerous spectators who came to visit him. He usually ate, every day, twenty-eight pounds weight of clover, besides about the same weight of ship-biscuit, and a great quantity of greens. This food was invariably seized in his long and projecting upper lip, and by it was conveyed into his mouth. He was allowed also five pails of water twice or thrice a day; and he was fond of sweet wines, of which he would often drink three or four bottles in the course of a few hours. His voice was not much unlike the bleating of a calf. This was usually exerted when he observed any person with fruit, or other favourite food in his hand; and in such cases, it seems to have been a mark of his anxiety to have food given him.

In the month of October, 1792, as this Rhinoceros was one day rising up very suddenly, he dislocated the joint of his right fore-leg. This accident brought on an inflammation, which, about nine months afterwards, occasioned his death. It is a singular fact, that in the first attempts that were made to recover the animal, the incisions which were formed through his thick and tough hide, were invariably found to be healed in the course of twenty-four hours. He died in a caravan, at Corsham, near Portsmouth.

The second Rhinoceros that was at Exeter 'Change was considerably smaller than this, and was likewise a male. It was brought over about the year 1799, and lived not more than twelve months afterwards. An agent of the Emperor of Germany purchased it of Mr. Pidcock for 1000*l.*; but it died in a stable-yard in Drury-Lane, after the purchaser had been in possession of it about two months.

The third of these animals I saw at Exeter 'Change in the month of October, 1810. It was kept somewhat more than four years afterwards, and then sold to an innkeeper of Ghent, for exhibition on the continent.

The females of this species produce only a single young-one at a birth.

THE TWO-HORNED RHINOCEROS*.

In their habits and manner of feeding, these animals differ but little from the Single-horned Rhinoceros. M. Le Vaillant informs us that whenever they are at rest they place themselves in the direction of the wind, with their noses towards it, in order to discover by the smell the approach of any enemies. From time to time they move their heads round to look behind them, and to be assured that they are safe on all sides; but they soon return to their former position. When they are irritated, they tear up the ground with their horns; throwing the earth and stones furiously, and to a vast distance, over their heads.

The description which has been given by Mr. Bruce of the habits of the Two-horned Rhinoceros is deserving of particular notice. He informs us that "besides the trees that are capable of most resistance, there are, in the vast forests within the rains, trees of a softer consistence, and of succulent quality, which seem to be destined for the principal food of this animal. For the purpose of gaining the highest branches of these, his upper lip is capable of being lengthened out so as to increase his power of laying hold with it, in the same manner as the elephant does with his trunk. With this lip, and the assistance of his tongue, he pulls down the upper branches, which have most leaves, and these he

* DESCRIPTION. This species differs from the last, principally in the appearance of its skin; which, instead of vast and regularly-marked armour-like folds, has merely a slight wrinkle across the shoulders, and on the hinder parts, and a few fainter wrinkles on the sides: so that, in comparison with the Common Rhinoceros, it appears almost smooth. What, however, constitutes the chief distinction, is the nose being furnished with two horns, one of which is smaller than the other, and situated above it. These horns are loose when the animal is in a quiescent state, but become fixed and immovable when it is enraged. *Shaw. i. 202.*

SYNONYMS. *Rhinoceros bicornis. Linnaeus.—Shaw's Gen. Zool. Pl. 61, from Bruce.—Bew. Quad. p. 179.*

devours first. Having stripped the tree of its branches, he does not immediately abandon it; but, placing his snout as low in the trunk as he finds his horns will enter, he rips up the body of the tree, and reduces it to thin pieces like so many laths; and, when he has thus prepared it, he embraces as much of it as possible in his monstrous jaws, and twists it round with as much ease as an ox would do a root of celery, or any small plant.

When pursued, and in fear, he moves with astonishing swiftness, considering his size, the apparent unwieldiness of his body, his great weight before, and the shortness of his legs. It is not, however, true that, in a plain, his pace is more rapid than that of a horse; for Mr. Bruce has often passed these animals with ease, and seen other persons worse mounted than himself, do the same; but by his cunning he is often able to elude pursuit. He makes constantly from wood to wood, and forces himself into the thickest parts of the forest. The trees that are dead or dry, are broken down, as if with a cannon-shot, and fall behind and on each side of him, in all directions. Others that are more pliable, greener, or fuller of sap, are bent back by his weight, and by the velocity of his motions. And, after he has passed, they restore themselves, like a green branch, to their natural position, and often sweep the incautious pursuer and his horse from the ground, and dash them in pieces against the surrounding trees.

The eyes of the Rhinoceros are very small; he seldom turns his head, and therefore sees nothing but what is before him*. It is to this that he owes his death, and he never escapes if there be so much plain as to enable the horses of the hunters to get before him. His pride and fury then make him lay aside all thoughts of escaping, except by victory over his enemy. He stands for a moment at bay: then, at a start, runs straight forward at the horse which is nearest to him. The rider

* The account of Mr. Bruce differs, in this particular, from that of M. Le Vaillant, before quoted.

easily avoids the attack by turning short to one side. This is the fatal instant: a naked man, who is mounted behind the principal horseman, drops off the horse, and, unseen by the Rhinoceros, gives him, with a sword, a stroke across the tendon of the heel, which renders him incapable either of flight or resistance.

These animals frequent wet and marshy situations; but large, fierce, and strong as they are, they suffer great torment from an apparently contemptible adversary. This is a fly, (probably of the Linnæan genus *æstrus*), which is bred in the black earth of the marshes in Abyssinia. It persecutes the Rhinoceros so unremittingly, that it would in a short time subdue him, but for a stratagem which he practises for his preservation. In the night, when the fly is at rest, the huge animal chooses a convenient place, where, rolling in the mud, he clothes himself in a kind of case, which defends him against his adversary the following day: the wrinkles and plaits of his skin serve to keep this muddy plaster firm upon every part of his body, except the hips, shoulders, and legs. Here it cracks and falls off, by his motion, and leaves him exposed, in those parts, to the attacks of the fly. The itching and pain which follow, occasion him to rub himself with great violence against the roughest trees he can find.

The skin of this Rhinoceros is not so hard or impenetrable as that of the last species. In his wild state he is often slain by javelins thrown from the hand, some of which enter his body to a great depth. A musket-shot will go through him unless interrupted by a bone; and the inhabitants of Shangalla kill these animals by the clumsiest arrows that ever were used, and afterwards cut him to pieces with the very worst of knives.

In order to afford some idea of the enormous strength of this Rhinoceros, I shall quote Mr. Bruce's account of the hunting of this animal in Abyssinia. "We were on horseback (says this gentleman) by dawn of day, in search of the Rhinoceros, many of which we had heard making a very deep groan and cry as the morning ap-

proached. Several of the Agageers, or hunters, then joined us; and after we had searched about an hour in the very thickest part of the wood, a Rhinoceros rushed out with great violence, and crossed the plain towards a wood of canes that was about two miles distant. But though he ran, or rather trotted, with surprising speed, considering his bulk, he was, in a short time, transfixcd with thirty or forty javelins. This attack so confounded him, that he left his purpose of going to the wood, and ran into a deep hole, or ravine, without outlet, breaking above a dozen of the javelins as he entered. Here we thought he was caught as in a trap, for he had scarcely room to turn; and a servant, who had a gun, standing directly over him, fired at his head, and the animal fell immediately, to all appearance dead. All those on foot now jumped in with their knives to cut him up; but they had scarcely begun, when the animal recovered so far as to rise upon his knees: happy then was the man that escaped first; and had not one of the Agageers, who was himself engaged in the ravine, cut the sinew of the hind leg as he was retreating, there would have been a very sorrowful account of the foot-hunters that day."

It is a remarkable fact, that the cavity which contained the brain of one of these huge animals, was so small as to be only six inches long and four deep; and, being filled with peas, was found to contain barely a quart: while a human skull, measured at the same time, took above two quarts to fill it.

The Hottentots, and even some of the colonists of the Cape of Good Hope, set a high value on the dried blood of the Rhinoceros. They ascribe to it great virtues in the cure of many disorders of the body. The flesh is eatable, but it is full of sinews.

THE ELEPHANT TRIBE.

These animals have no front teeth in either jaw; but from the upper jaw there proceed two long tusks, which,

in a state of nature, are chiefly employed in tearing up trees for food, and as weapons of defence against their enemies. They have a long, cartilaginous, prehensile trunk, which is capable of laying hold even of the most minute substances. Their body is thinly scattered over with hairs. No more than *one* species has hitherto been ascertained.

THE ELEPHANT*.

There is scarcely any animal in the creation that has, at different times, occupied so much the attention of mankind as the elephant. Formed in a peculiar manner for the service of man in the hot climates, he is endowed with every requisite to usefulness. He is strong, active, and laborious; and such are his mildness and sagacity, that he can be trained to almost any service which a brute is capable of performing.

Elephants are found wild, and generally in large troops, in the shady woods of Asia and Africa. They feed on vegetables, on the young shoots of trees, on grain, and fruit; and they are probably the longest lived of any quadrupeds; for they sometimes attain the great age of a hundred or a hundred and twenty years.

* See Plate iii. Fig. 2.

DESCRIPTION. The Elephant is undoubtedly the largest of all terrestrial animals. It sometimes attains the height of twelve feet; though its more general height seems to be from nine to ten feet. The skin is usually of a deep ash-colour. The tusks in a full-grown male Elephant sometimes extend ten feet from the sockets; but those of the females are short. The eyes are extremely small, and the ears large and pendulous. The head is large, the back much arched, the legs extremely thick, and the feet divided into, or rather edged with, five rounded hoofs. The tail is terminated by a few scattered and very thick black hairs. The teats of the females are two, seated at a small distance behind the fore-legs.

SYNONYMS. *Elephas Maximus.* *Linnaeus.*—L'Elephant. *Buffon.*—*Shaw's Gen. Zool. Pl. 63, 64: the latter from Buffon.*—*Bew. Quad. p. 186.*

This circumstance alone would induce us to suppose that they could not be very prolific, as in such case the countries which they inhabit would soon be overstocked, and consequently devastated by them. The females seldom produce more than a single young-one at a birth. This, when first born, is about the size of a large dog; and it does not attain its full growth until it is sixteen or eighteen years old.

In the structure of the Elephant, the most singular organ is the trunk or proboscis. This, which is an extension of the canals of the nose, is very long, composed of a great number of cartilaginous rings, and divided in the inside through its whole length. At the lower end it is furnished with a kind of moveable finger; and it is so strong as to be capable of breaking off large branches from trees. Through this the animal smells and breathes; and by means of it, he conveys food to his mouth. The sense of smelling the elephant enjoys in such perfection, that if several people be standing around him, he will discover food in the pocket of any one present, and take it out by his proboscis with great dexterity. With this he can untie the knots of ropes, and open and shut gates by turning the keys or pushing back the bolts, and pick up even the smallest bodies from the ground. It is, in short, one of the most useful and extraordinary instruments that the wisdom of Providence has bestowed on any species of animal.

The disposition of these animals is gentle; and their manners are social, for they are seldom seen wandering alone. They generally march in troops, the oldest keeping foremost, and the next in age bringing up the rear. The young and the feeble occupy the middle. The mothers carry their young ones firmly embraced in their trunks. They do not, however, observe this order, except in perilous marches, when they are desirous of pasturing on cultivated fields. In the deserts and forests, they travel with less caution, but without separating so far as to exceed the possibility of receiving assistance from one another.

The wild Elephants of Ceylon live in troops or families, distinct from all others, and seem to avoid the strange herds with particular care. When a family removes from place to place, the largest-tusked males place themselves at the head, and if they come to a river, they are the first to pass it. On arriving at the opposite bank, they try whether the landing-place is good: if it be, they give a signal with their trunk, when another division of the old Elephants swim over: the young then follow, holding one another by locking their trunks together; and the rest of the old ones bring up the rear.

The modes of taking this animal, and rendering it submissive to human authority, merit particular attention. At Tepura, in the East Indies, when the inhabitants are desirous of securing the wild male Elephants, they do it by means of Koomkees, or female Elephants, trained for the purpose. As the hunters know the places where the Elephants come out to feed, they advance towards them in the evening with four Koomkees. When the nights are dark, the objects of pursuit are discovered by the noise they make in cleaning their food, which they do by whisking and striking it against their fore-legs.

As soon as the hunters have determined on the animal they mean to secure, three of the Koomkees are conducted silently and slowly, at a little distance from each other, nearly to the place where he is feeding. The Koomkees advance cautiously, feeding as they go along. When the male perceives them approaching, if he takes the alarm, and is viciously inclined, he beats the ground with his trunk, and makes a noise, showing evident marks of displeasure. This, however, is not often the case: he generally allows them to approach, and sometimes even advances to meet them.

The drivers now conduct two of the females, one on each side of him: these close themselves gently against his neck and shoulders; the third female then comes up, and places herself across his tail. In this situation,

far from suspecting any design against his liberty, he begins to toy with the females, and caresses them with his trunk. While thus engaged, the fourth female is brought near, attended by proper assistants, who immediately get under the body of the animal, and put a slight rope round his hind legs. If he take no notice of this slight confinement, the hunters proceed to tie his legs with a stronger rope; which is passed alternately, by means of a forked stick, and a kind of hook, from one leg to the other, in the form of a figure of 8. Six or eight of these ropes are generally employed one above another; and they are fastened at their intersections by another rope, that is made to pass perpendicularly up and down. A strong cable, with a running noose, is next put round each hind leg, above the other ropes; and afterwards six or eight ropes are crossed from leg to leg above the cable. The fixing of these ropes usually occupies about twenty minutes, during which time the utmost silence is observed.

When thus secured, the animal is left to himself, the Koomkees retiring to a little distance. He attempts to follow them, but finding his legs tied, and becoming sensible of the danger of his situation, he immediately retreats towards the jungle. The drivers, mounted on tame Elephants, and accompanied by several persons, who till this time have been kept out of sight, follow him at a little distance; and as soon as he passes near a tree sufficiently stout to hold him, they make a few turns, round the trunk of the trees, with the long cables which trailed behind him. His progress being thus stopped, he becomes furious, and exerts his utmost efforts to disengage himself. The Koomkees dare not now approach him; and, in his fury, he falls down on the earth, and tears it up with his tusks. When he has exhausted himself, the Koomkees are again brought near and take their former positions. After getting him nearer the tree, the people carry the ends of the long cables two or three times round it, so as to prevent the possibility of his escape. His fore legs are now tied in the same manner as his hind legs were. The



J. Shury del. et sculp.

1, Spectre Bat. 2, Elephant. 3, Zebra.

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cables are made fast, one on each side, to trees or stakes driven deep into the earth ; and he is subsequently fastened, by means of other ropes, to two Koomkees, one on each side.

Every thing being now ready, and a passage being cleared from the jungle, all the ropes, except one, are taken from his legs. The Koomkees pull him forward ; sometimes, however, not without much struggling and violence on his part. When brought to his proper station, and made fast, he is treated with a mixture of severity and gentleness ; and, generally, in a few months he becomes tractable, and appears perfectly reconciled to his fate. It seems somewhat extraordinary, that though the animal uses his utmost force to disengage himself when taken, and would kill any person who came within his reach, yet he seldom attempts to injure the females that have ensnared him ; but, on the contrary, seems, as it were, consoled by them for the loss of his liberty.

The mode of securing a herd of wild Elephants is very different from that adopted in taking a single male, and the process is much more tedious.

When a herd of these animals, which generally consists of from forty to a hundred, is discovered, about five hundred people are employed to surround it. By means of fire and noises, they, in the course of some days, are able to drive them to the place where they are to be secured. This is called the Kedda. It consists of three enclosures, communicating with each other by means of narrow openings or gateways. The outer one is the largest, the middle generally the next in size, and the third or furthestmost the smallest. When the animals arrive near the first enclosure, (the palisades and two gates of which are as much as possible disguised by branches of trees and bamboos being stuck in the ground, in order to have the appearance of a natural jungle,) great difficulty attends the business of getting them in. The leader always suspects some snare, and it is not without the utmost hesitation that

he passes; but as soon as he enters, all the rest follow. Fires are now lighted round the greatest part of the enclosure, particularly at the entrance, and loud and discordant noises are made for the purpose of urging them on to the next enclosure. The Elephants find themselves entrapped, and discovering no opening except the entrance to the next enclosure, they at length pass it. The gate is instantly shut upon them, fires are lighted, and discordant noises are made as before, till they have passed through another gateway into the last enclosure, where they are secured in a similar manner. Being now completely surrounded, and perceiving no outlet through which they can escape, they appear desperate, and, in their fury, advance frequently to the surrounding ditch, in order to break down the palisade, inflating their trunks, and screaming out aloud: but wherever they make an attack, they are opposed by lighted fires, and by the noise and triumphant shouts of the hunters. The ditch is then filled with water; and, after a while, they have recourse to it in order to quench their thirst and cool themselves, which they do by drawing the water into their trunks, and then squirting it over every part of their bodies.

When the Elephants have continued in the enclosure a few days, where they are regularly, though scantily, fed from a scaffold on the outside, the door of the Roomee (an outlet about sixty feet long and very narrow) is opened, and one of the Elephants is enticed to enter by having food thrown before it*. When the animal has advanced, the gate is shut and well secured on both sides. Finding his retreat now cut off, and the place so narrow that he cannot turn himself, he proceeds, and exerts his utmost efforts to break down the

* In many places this mode is not adopted; but as soon as the herd has been surrounded by a strong palisade, Koomkees are sent in with proper people, who tie them on the spot, in the manner we have mentioned respecting the single male Elephants.

bars in front of him, running against them, screaming and roaring most violently, and battering them, like a ram, by repeated blows with his head, retreating and advancing with the utmost fury. In his rage he even rises, and leaps upon the bars with his fore-feet, striving to break them down with his weight. When he becomes fatigued with these exertions, ropes are, by degrees, put round him; and he is secured in a manner nearly similar to that adopted in taking the single males; and thus, in succession, they are all secured.

The Elephants are now separated, and each is given into the care of a keeper, who is appointed to attend and instruct him. Under this man there are three or four others, who assist in supplying food and water till the animal becomes sufficiently tractable to feed himself. In a few days the keeper advances cautiously to the side of the Elephant, and strokes and pats him with his hand, at the same time speaking to him in a soothing voice; and after a little while, the beast begins to know the keeper and obey his commands. By degrees the latter becomes familiar, and at length mounts upon the animal's back, from one of the tame Elephants. He gradually increases the intimacy, as the animal becomes more tame, till at last he is permitted to seat himself on his neck, from which place he is afterwards to regulate and direct all his motions. In five or six weeks the Elephant becomes obedient to his keeper; his fetters are by degrees taken off; and generally in about six months he will suffer himself to be conducted from place to place, with as much complacency as if he had been long subdued. Care, however, is taken not to let him approach his former haunts, lest a recollection of them should induce him to attempt to recover his liberty; for it is generally believed that, if an Elephant escape, after having been in bondage, it is not possible, by any art, again to entrap him. The following instances, recorded in the Philosophical Transactions for 1799, will, however, prove that this is not the fact:—

A female Elephant was first taken in the year 1765,

and two years was afterwards suffered to escape into the woods. She was retaken; but broke loose in a stormy night, and again escaped. In 1782, more than ten years after her second escape, she was driven by the Elephant-hunters belonging to Mr. Leeke, of Longford-hall, in Shropshire, into an enclosure in which Elephants are secured; and the day following, when Mr. Leeke went to see the herd that had been taken, this Elephant was pointed out to him by the hunters, who well recollected her. They frequently called to her by name; to which she seemed to pay some attention, by immediately looking towards them when it was repeated; nor did she appear like the wild Elephants, who were constantly running about the enclosure in a rage, but seemed perfectly reconciled to her situation.

For eighteen days, she never approached near enough to the outlet to be secured. Mr. Leeke, at length, went himself, when there were only this Elephant, another female, and eight young ones remaining in the enclosure. After the other female had been secured, the hunters were ordered to call on this animal by name. She immediately came to the side of the ditch, within the enclosure; and some of the drivers were desired to carry in a plantain tree. She not only took the leaves of this from their hands with her trunk, but she opened her mouth for them to put a leaf into it; which they did, at the same time stroking and caressing her, and calling to her by name. One of the trained Elephants was now ordered to be brought to her, and the driver was told to take her by the ear, and order her to lie down. At first she retired to a distance, seeming angry: but, when the drivers, who were on foot, called to her, she immediately came and allowed them to stroke and caress her as before; and, a few minutes afterwards, she permitted the trained Elephants to be familiar with her. A driver from one of these then fastened a rope round her body, and jumped on her back: this, at the moment, she did not like, but she was soon reconciled to it. A small cord was then placed

round her neck, for the driver to put his feet in; who, seating himself in the usual manner, drove her about the enclosure, in the same manner as any of the tame Elephants.

In June, 1787, a male Elephant, taken the year before, was travelling, in company with some others, towards Chittigong, laden with baggage; and having come upon a Tiger's track, he took fright and ran off into the woods, in spite of all the efforts of his driver. On entering the wood, the driver saved himself by springing from the animal and clinging to the branch of a tree under which he was passing; and the Elephant escaped.

Eighteen months after this, when a herd of Elephants had been taken, and had remained several days in the enclosure, one of the drivers, attentively viewing a male Elephant, declared he resembled the animal that had run away. This excited the curiosity of every one to go and look at him; but, when any person came near, the animal struck at him with his trunk, and in every respect appeared as wild and outrageous as any of the other Elephants. An old hunter at length coming up and examining him, declared that he was the very Elephant that had made his escape. Confident of this, he boldly rode up to him on a tame Elephant, and ordered him to lie down, pulling him, at the same time, by the ear. The animal seemed taken by surprise, and instantly obeyed the word of command.

A female Elephant, belonging to a gentleman at Calcutta, being ordered from the upper country to Chotygoné, broke loose from her keeper, and was lost in the woods. The excuses which the keeper made were not admitted. It was supposed that he had sold the Elephant; his wife and family, therefore, were sold for slaves, and he was condemned to work upon the roads. About twelve years afterwards this man was ordered into the country, to assist in catching wild Elephants. He one day fancied that in a group which was before him, he saw his long-lost Elephant. He

was determined to go up to it; nor could the strongest representations of the danger with which his rashness might be attended, dissuade him from his purpose. When he approached the animal, she knew him; and, giving him three salutes, by waving her trunk in the air, knelt down and received him on her back. She afterwards assisted in securing the other Elephants, and likewise brought with her three young ones which she had produced during her absence. The keeper recovered his character; and, as a recompense for his sufferings and intrepidity, had an annuity settled on him for life. This Elephant was afterwards in the possession of Governor Hastings.

These, and other instances that have occurred, clearly evince that Elephants have not the sagacity to avoid a snare into which they have, even more than once, fallen.

The Elephant, when tamed, becomes the most gentle and obedient of all domestic animals. He soon learns to comprehend signs, and even to understand the expression of sounds. He distinguishes the tones of command, of anger, or of approbation; and regulates his actions accordingly. He receives the orders of his keeper with attention, and executes them with prudence and eagerness, but without any degree of precipitation; for his movements are always measured, and his character seems to partake of the gravity of his bulk. He is easily taught to bend his knees for the accommodation of those who mount him; and to use his trunk for raising burdens, and to assist in loading himself. He allows himself to be clothed, and is employed in drawing chariots, ploughs, and waggons. He draws steadily, and never proves restive, unless insulted by improper chastisement. The man who conducts him generally rides on his neck, and uses an iron rod, hooked at the end, or having there a kind of bodkin, with which he pricks the head, or sides of the ears, in order to urge him forward or to turn him. But words are generally sufficient.

The domestic Elephant performs more work than perhaps six horses. He is generally fed with rice, raw or boiled, and mixed with water; and, to keep him in full vigour, he is said to require daily a hundred pounds weight of this food, besides fresh herbage to cool him; and he ought to be led to the water twice or thrice a-day for the purpose of bathing. He sucks up water in his trunk, carries it to his mouth, drinks part of it, and, by elevating his trunk, allows the remainder to run over every part of his body. His daily consumption of water, for drink, has been calculated at forty-five gallons.

To give an idea of the labour which he performs, it is sufficient to remark, that all the tuns, sacks, and bales, transported from one place to another in India, are carried by Elephants; that they carry burdens on their bodies, on their necks, and even in their mouths, by giving them the end of a rope, which they hold fast with their teeth; that, uniting sagacity to strength, they never break or injure any thing committed to their charge; that, from the banks of the rivers, they put these bundles into boats without wetting them, laying them down gently, and arranging them where they ought to be placed; that, when disposed in the places where their masters direct, they try with their trunks whether the goods are properly stowed; and, if a tun or a cask roll, they go, of their own accord, in quest of stones to support and render it firm.

M. Phillipe was witness to the following facts:—He one day went to the river at Goa, near which place a great ship was building. Here was a large area, filled with beams for that purpose. Some men tied the ends of heavy beams with a rope. This was handed to an Elephant, who carried it to his mouth, and, after twisting it round his trunk, drew it, without any conductor, to the place where the ship was building. One of the Elephants sometimes drew beams so large, that it would have required more than twenty men to move them. But what surprised this gentleman still more,

was, that when other beams obstructed the road, he elevated the ends of his own beam, that it might run easily over those which lay in his way.

Elephants not only obey the voice of their keeper when present; but some, even in his absence, will perform extraordinary tasks which have been previously explained to them. "I have seen two," says M. D'Obsonville, "occupied in beating down a wall; which their *Cornacs* or keepers had desired, and had encouraged them to do by a promise of fruits and brandy. They combined their efforts; and doubling up their trunks, which were guarded from injury by leather, thrust them against the strongest part of the wall; and by reiterated shocks continued their efforts, carefully observing and following with their eyes the effects of the equilibrium: at last, when it was sufficiently loosened, making one violent push, they suddenly drew back together, that they might not be wounded; and the whole came tumbling to the ground."

At a certain season of the year, these animals are seized with a ferocity which renders them intractable, and formidable; but in their ordinary state, the most acute pains will not provoke them to injure those who have not offended them. A female Elephant, rendered furious by the wounds she had received, at the battle of Hambour, ran about the field making the most hideous cries. A soldier, notwithstanding the alarm of his comrades, was unable, perhaps on account of his wounds, to fly. The Elephant approached, seemed afraid of trampling upon him, took him up with her trunk, placed him gently on his side, and continued her route.

An incident, to which M. le Baron de Lauriston was witness, during one of the late wars in the East, forms another proof of the sensibility of the Elephant. This gentleman, from peculiar circumstances, was induced to go to Laknaor, at a time when an epidemic distemper was making the greatest ravages amongst the inhabitants. The principal road to the palace-gate was

covered with the sick and dying, extended on the ground, at the very moment when the nabob must necessarily pass. It appeared impossible for his Elephant to do otherwise than tread upon and crush many of these poor wretches, unless the prince would stop till the way could be cleared; but he was in haste, and such tenderness would have been unbecoming in a person of his importance. The Elephant, however, without appearing to slacken his pace, and without having received any command for that purpose, assisted them with his trunk, removed some, set others on their feet, and stepped over the rest with so much address and assiduity, that not one person was wounded. An Asiatic prince and his slaves were deaf to the cries of nature, while the heart of the beast relented: he, more worthy than his rider to elevate his front towards the heavens, heard and obeyed the calls of humanity.

The following instance of the sagacity of these animals was mentioned to Dr. Darwin, by some gentlemen of undoubted veracity, who had been much conversant with our Eastern settlements. The Elephants that are employed in carrying the baggage of our armies, are put each under the care of one of the natives of Indostan; and while this person and his wife go into the woods to collect leaves and branches of trees for his food, they fix him to the ground by a long chain, and frequently leave a child, yet unable to walk, under his protection; and the intelligent animal not only defends it, but, as it creeps about, when it arrives near the extremity of his chain, he wraps his trunk gently round its body, and brings it again into the centre of his circle.

During one of the wars in India, many Frenchmen had an opportunity of observing one of the Elephants that had received a flesh-wound from a cannon-ball. After having been twice or thrice conducted to the hospital, where he extended himself to be dressed, he afterwards used to go alone. The surgeon did whatever he thought necessary, and sometimes applied even fire

to the wound. The pain which the animal suffered, often caused him to utter the most plaintive groans, yet he never expressed any other token than that of gratitude, to the person who thus by momentary torments effected his cure.

In the last war, a young Elephant received a violent wound in its head, the pain of which rendered it so frantic and ungovernable, that it was found impossible to persuade the animal to have the part dressed. Whenever any one approached, it ran off with fury, and would suffer no person to come within several yards of it. The man who had the care of this animal, at length hit upon a contrivance for securing it. By a few words and signs, he gave to its mother sufficient intelligence of what was wanted; the sensible creature immediately seized her young one with her trunk, and held it firmly down, though groaning with agony, while the surgeon completely dressed the wound: and she continued to perform this service every day till the animal was perfectly recovered.

In India these animals were formerly employed in the launching of ships. An Elephant was directed to force a very large vessel into the water; but the work proved superior to his strength. His master, in a sarcastic tone, bade the keeper take away this lazy beast, and bring another. The poor animal instantly repeated his efforts, fractured his skull, and died on the spot.

In the Philosophical Transactions, a story is related of an Elephant having formed such an attachment for a very young child, that he was never happy but when the child was near him. The nurse frequently took it in its cradle, and placed it between his feet. This he at length became so much accustomed to, that he would never eat his food except it was present. When the child slept, he would drive off the flies with his proboscis; and when it cried, would move the cradle backward and forward, and thus rock it again to sleep.

A sentinel belonging to the present menagerie at Paris, was always very careful in requesting the spec-

tators not to give the Elephants any thing to eat. This conduct particularly displeased the female; who beheld him with a very unfavourable eye, and several times endeavoured to correct his interference, by sprinkling his head with water from her trunk. One day, when several persons were collected to view these animals, a by-stander offered the female a bit of bread. The sentinel perceived it; but the moment he opened his mouth to give his usual admonition, she, placing herself immediately before him, discharged in his face a considerable stream of water. A general laugh ensued; but the sentinel, having calmly wiped his face, stood a little to one side, and continued as vigilant as before. Soon afterwards, he found himself under the necessity of repeating his admonition to the spectators; but no sooner was this uttered, than the female laid hold of his musket, twirled it round with her trunk, trod it under her feet, and did not restore it till she had twisted it nearly into the form of a screw.

M. Navarette says, that at Macassar, an Elephant-driver had a cocoa-nut given him, which, out of wantonness, he struck twice against his Elephant's forehead, to break. The day following the animal saw some cocoa-nuts exposed in the street for sale; and taking one of them up with his trunk, beat it about the driver's head, and killed him on the spot.

An Elephant that was exhibited in France some years ago, was remarked to be peculiarly dexterous in the use of his trunk. With great ease he one day loosened the buckle of a large double leather strap, with which his leg was fastened; and, though the attendants had wrapped the buckle round with a small cord, and tied many knots on it, the creature deliberately loosened the whole, without breaking either the cord or the strap. One night, after having disengaged himself in this manner from his strap, he broke up the door of his lodge with such dexterity as not to awaken the keeper. Thence he went into several courts of the menagerie; forcing open doors, and throwing down the walls where the doors were too narrow for him to pass.

In this manner he got access to the apartments of other animals; and so terrified them, that they fled into the most retired corners of the enclosure.

That Elephants are susceptible of the warmest attachment to each other, the following account, extracted from a late French journal, will sufficiently prove. Two Ceylonese Elephants, a male and female, each about two years and a half old, were, in 1786, brought into Holland, as a present to the Stadtholder. After the subjugation of Holland by the French, they had been separated, in order to be conveyed from the Hague to Paris; where a spacious hall was prepared for their reception in the place now called the Jardin des Plantes. This was divided into two apartments, which had a communication by means of a large door resembling a portcullis. The enclosure round these apartments consisted of very strong wooden rails. The morning after their arrival, they were conveyed to this habitation. The male was first brought. He entered the apartment with suspicion, reconnoitred the place, and then examined each bar separately with his trunk, and tried its solidity by shaking it. When he arrived at the portcullis, which separated the apartments, he observed that it was fastened only by a perpendicular iron bar. This he raised with his trunk; he then pushed up the door, and entered the second apartment where he received his breakfast. These two animals had been parted (but with the utmost difficulty) for the convenience of carriage, and had not seen each other for some months; and the joy they experienced, on meeting again after so long a separation, is scarcely to be expressed. They immediately rushed towards each other, and sent forth cries of joy so animated and loud as to shake the whole hall. They breathed also through their trunks with such violence, that the blast resembled an impetuous gust of wind. The joy of the female was the most lively. She expressed it by quickly flapping her ears, which she made to move with astonishing velocity, and drew her trunk over the body of the male with the

utmost tenderness. She particularly applied it to his ear, where she kept it a long time; and, after having drawn it over his whole body, often moved it affectionately towards her own mouth. The male did the same over the body of the female, but his joy was more steady. He seemed, however, to express it by tears, which fell from his eyes in abundance. After this time they occupied the same apartment; and their mutual tenderness and natural affection, excited the admiration of all who have visited them.

These two Elephants consumed every day a hundred pounds weight of hay, and eighteen pounds of bread, besides several bunches of carrots, and a great quantity of potatoes. During summer they drank about thirty pails of water in the day. On their arrival in Holland, they were conveyed in a vessel, up the river Waal, to Nimeguen, whence they were driven on foot to Loo. The attendants had much difficulty in inducing them to cross the bridge at Arnheim. The animals had fasted for several hours, and a considerable quantity of food was placed for them on the opposite side of the bridge. Still, however, some time elapsed before they would venture upon it; and at last they would not make any step without first carefully examining the planks, to ascertain that they were firm. During the time they were kept at Loo they were perfectly tame, and were suffered to range at liberty. They would sometimes come into the room at the dinner-hour, and take food from the company. After the conquest of Holland, from the cruelty with which they were treated by many of the spectators who crowded to visit them, they, however, lost much of their gentleness; and their subsequent confinement in the cages in which they were conveyed to Paris, even rendered them, in some degree, ferocious towards spectators.

Elephants are said to be extremely susceptible of the power of music. Suetonius informs us, that the emperor Domitian had a troop of Elephants disciplined to dance to the sound of music; and that one of

them, who had been beaten for not having his lesson perfect, was observed, the night afterwards, in a meadow, practising it by himself!

At Paris some curious experiments have been lately made respecting the power of music over the sensibility of the Elephant. A band of music went to play in a gallery extending round the upper part of the stalls in which were kept two Elephants, distinguished by the names of *Margaret* and *Hans*. A perfect silence was procured. Some provisions of which they were fond, were given them to engage their attention; and the musicians began to play. The music no sooner struck their ears, than they ceased from eating, and turned in surprise to observe whence the sounds proceeded. At the sight of the gallery, the orchestra, and the assembled spectators, they discovered considerable alarm, as though they imagined there was some design against their safety. But the music soon overpowered their fears, and all other emotions became completely absorbed in their attention to it. Music of a bold and wild expression excited in them turbulent agitations, expressive either of violent joy, or of rising fury. A soft air, performed on the bassoon, evidently soothed them to gentle and tender emotions. A gay and lively air moved them, especially the female, to demonstrations of highly sportive sensibility. Other variations of the music produced corresponding changes in the emotions of the Elephants.

A male Elephant was brought to England in the year 1793, and was purchased by Mr. Pidcock of Exeter 'Change, London. This animal was taught by his keepers to perform a great variety of tricks for the amusement of the visitors. If a pot of ale was brought to him, he would put the extremity of his trunk into it, and sucking up the liquor, would afterwards blow it into his mouth: this done, he would make a motion with his head, which the keeper always took care to tell the donor, was the animal's mode of expressing gratitude for the gift; and which, probably, the major part of the

spectators believed to be really the case. He would take up a watch or even the smallest piece of money from the floor; and, at command, would put it again into the owner's hand or pocket. He would take from any person a piece of money, and give it to a boy (who attended for the purpose) for bread, fruit, or vegetables, which he immediately ate. If his keeper ordered him, he would unbolt the door of his den, or untie, with the finger at the extremity of his proboscis, a piece of strong cord that was fastened to the door. When the keeper has been engaged in sweeping the den, the imitative animal has not unfrequently taken in his trunk another broom, and has attempted to sweep the place after him.

In the month of August, 1798, whilst a considerable part of Mr. Pidcock's collection of animals was at Lancaster, for the purpose of exhibition, several intoxicated sailors came to the carriages in the night, and began to demolish them. The keeper, who was roused by the noise, went out, and reprimanded the sailors for their conduct. This had no effect in influencing them to desist; but in return they began to ill-treat the man. His cries reached the ears of the Elephant: as soon as the animal recognised his voice, he burst open the door of his den, and immediately came out to the keeper's assistance. The moment, however, that the sailors perceived him, they all ran off, and little mischief was done. This animal died in the year 1803.

There was afterwards at Exeter 'Change, a female Elephant, which was brought to England in the Rockingham East-Indiaman, and landed on the 6th of January, 1796. At the time of her arrival she was not much bigger than a large hog, but she afterwards attained her greatest size. She was considerably more thick and fleshy, both in the body and limbs, than the male, and her head, in proportion, was larger. This animal, by some secret signal given from the keeper, would, at his order, beat as many times with her trunk against the rails of her den, as there were

persons in the room; and, in a similar manner, would beat the hour, after the man had held up a watch to one of her eyes. She would take off his hat, and again put it on, as often as she was commanded. She would lie down, and rise up again; and would unbolt and bolt the door of her den, whenever the keeper ordered her to do so. If the keeper put a shilling near the wall of the room, and *out of the reach of the animal's trunk*, and ordered her to pick it up, she immediately extended her trunk towards it, and blew hard against the wall: the blast moved the shilling within her reach, on which she seized it, and delivered it to him, or to any person that he directed.

As all the animals that are deposited in the menagerie at Exeter 'Change, are kept up one or more flights of stairs, it excites no inconsiderable degree of wonder, in most of the visitors, to conceive how such an unwieldy creature as an Elephant could have been conveyed into the place where it is exhibited. The mode is this: when one of these animals arrives, he is compelled to walk up a kind of platform that is laid over the staircase. In order to make him enter the den, one keeper pricks him behind, with a sharp-pointed spear, whilst another goes before, and entices him with fruit. This, of course, is always a troublesome operation, and requires much care and address in the persons employed.

An Elephant which is now (1822) in Exeter 'Change is a male, and measures more than ten feet in height. He is so tractable as to have been several times introduced in the dramatic entertainments at Covent-garden Theatre. The keeper of this animal usually sleeps in a place above his den, and at the height of twelve or fourteen feet from the ground. One night, about the end of the year 1819, the man did not return home in the evening so early as usual, and the Elephant, by means of his proboscis, and by resting his knees against the railing of his den, contrived to raise himself on his hind legs and reach the trunk in which the man kept his clothes. The animal opened the trunk, took out the

clothes, and swallowed pantaloons, waistcoats, neck-cloths, and several other articles of dress; and, happily for the owner, did not experience any inconvenience from this unusual diet.

Some of the Indians who believe in transmigration of souls, are persuaded that a body so majestic as that of the Elephant, must be animated with the soul of some great man or king. In many of the eastern countries, white Elephants are regarded as the living *manes* of the Indian emperors. Each of these animals has a palace, a number of domestics, and magnificent trappings; and eats out of golden vessels, filled with the choicest food. They are absolved from all labour. The emperor is the person before whom they bow the knee, and their salute is returned by the monarch. When the king of Pegu walks abroad, four white Elephants, adorned with precious stones and ornaments of gold, march before him; and when he gives audience, these Elephants are presented to him; and they do him reverence by raising their trunks, opening their mouths, making three distinct cries, and then kneeling. This ended, they are led back to the stable, and there each of them is fed from a large golden vessel. They are twice a-day washed with water, taken from a silver vessel; and, in going to the vessels which contain their food and water, they are preceded by trumpets, and march with great majesty.

Such are the accounts, collected through a tolerably wide range of authorities, which I have been enabled to give, of the disposition and manners of this useful and most intelligent of all animals. These, in a few instances, may perhaps have been exaggerated by the writers, and must consequently be received with some degree of limitation; yet, we have had so many surprising instances of the sagacity of Elephants, related on unquestionable authority, that, however wonderful these may seem, it would not be right to entirely discredit any of them, without direct proof of their untruth. The authorities for the whole are such as have

been received by different respectable and observing men, who, with both the power and ability of inquiring into the facts, seem to have entertained no doubts whatever of their validity.

THE MORSE, OR MANATI TRIBE*.

The Manati are animals entirely marine. They feed on sea-weeds, corallines, and shell-fish, and are not carnivorous. Their elongated body, declining in bulk from the head gradually to the tail, and their short, fin-like feet, give them some alliance to the fishy tribes. They may indeed be considered as forming one of those steps in nature, by which we are conducted from one great division of the animal world to the other. Though the general residence of all the species is in the sea, yet some of them are perfectly amphibious, and live with equal ease on the land and in water.

THE GREAT MORSE, OR ARCTIC WALRUS†.

When we consider the enormous size and strength of these animals, and that they are furnished with weapons

* These animals are destitute of fore teeth in both jaws. From the upper jaw proceed two great tusks, which point downward. The grinders have wrinkled surfaces. The lips are doubled. The hind feet are at the extremity of the body, and unite into a kind of fin.

† See Plate v. Fig. 1.

DESCRIPTION. This is an animal of enormous size. It sometimes measures nearly eighteen feet in length, and ten or twelve feet in circumference. In the upper jaw there are two long tusks, which bend downward. The head is small, the neck short, and body round. The lips are very thick, and the upper one is cleft into two large rounded lobes, on which there are several thick and semi-transparent bristles. The eyes are very small; and instead of external ears, there are only two small circular orifices. The skin is thick, and scattered over with short, brownish hair. The legs are short; and on each foot there are five toes, connected by webs. The

so powerful as the long tusks which project from their upper jaw, it is not without surprise we learn that their general disposition and habits are peaceful and inoffensive. The uses to which their tusks are applied, are the scraping of shell-fish, and other prey, out of the sand, and from the rocks; they are likewise employed in aiding their ascent upon the islands of ice, and as weapons of defence against the attacks of their enemies. If, however, their passions be roused by provocation or attack, these animals are sometimes exceedingly furious and vindictive. When surprised on the ice, the females first provide for the safety of their young ones, by flinging them into the sea, and conveying them to a secure distance; they then return with great rage to the place where they were attacked, for the purpose of revenging any injury they may have received. They will sometimes attempt to fasten their teeth on the boats, in order to sink them, or will rise under them in great numbers, with the intention of oversetting them; at the same time exhibiting all the marks of rage, roaring in a dreadful manner, and gnashing their teeth with great violence. They are strongly attached to each other, and will make every effort in their power, even to death, to liberate an harpooned companion. A wounded Walrus has been known to sink beneath the surface of the ocean, rise suddenly again, and bring up with it multitudes of others, who have united in an attack on the boat from whence the insult came.

Great numbers of Arctic Walruses regularly visit the Magdalene Islands, in the Gulf of St. Lawrence, every spring. Immediately on their arrival, they crawl up the sloping rocks of the coast in great numbers, and,

hind feet are considerably broader than the others. The tail is very short.

SYNONYMS. *Trichechus Rosmarus*. Linn.—Sea-horse. Ellis.—Morse, or Walrus.—*Smellie*. Buffon.—Morse. Buffon.—*Rosmarus*. Johnson.—Arctic Walrus. Penn.—*Shaw's Gen. Zool. Pl.* 68, 69.—*Bew. Quad.* p. 503.

when the weather is fair, they frequently remain for many days; but on the first appearance of rain, they retreat to the water with great precipitation. In the course of a few weeks they assemble in great numbers: Formerly, when undisturbed by the Americans, their herds have been known to amount to 7 or 8000. These animals are killed by the inhabitants, for the sake of their skins and fat. At a proper time, the hunters, taking advantage of a sea-wind to prevent the animals from smelling them, endeavour in the night, with the assistance of dogs, to separate those that are furthest advanced from those nearest the water, driving them different ways. This is generally esteemed a very dangerous process, as it is impossible to drive them in any particular direction, and sometimes difficult to avoid being attacked by them. In the darkness of the night, however, many of them lose their knowledge of the direction in which they lie, with respect to the water, so that they stray about, and are killed by the men at leisure; those nearest the shore becoming the first victims. In this manner fifteen or sixteen hundred have sometimes been killed at one time. They are then skinned, and the coat of fat that surrounds them is taken off, and dissolved into oil. The skin is cut into slices two or three inches wide, and exported to America for carriage-traces, and to England for glue.

It is said that the Walruses will sometimes attack small boats through wantonness, and not only throw the people into confusion, but frequently subject them to great danger. In the year 1766, some of the crew of a sloop which sailed to the northward, to trade with the Esquimaux, were attacked in their boat by a great number of these animals; and that, notwithstanding their utmost endeavours to keep them off, a small one, more daring than the rest, got in over the stern, and, after sitting and looking at the men for some time, again plunged into the water to his companions. At that instant another, of enormous size, was getting in over the bow; and, every other means proving ineffec-

tual to prevent the approach of such an unwelcome visitor, the bow-man took up a gun loaded with goose-shot, put the muzzle into the animal's mouth, and shot him dead. He immediately sunk, and was followed by all his companions. The people then made the best of their way to the ship, and just arrived before the creatures were ready to make their second attack, which would probably have been much more dangerous than the first.

The following is captain Cook's description of a herd of Walruses, that were seen floating on a mass of ice off the northern part of the continent of America.—“ They lie (says he) in herds, of many hundreds, upon the ice, huddling over one another like swine; and roar or bray so loud, that in the night, or in foggy weather, they gave us notice of the vicinity of the ice before we could see it. We never found the whole herd asleep, some being always upon the watch. These, at the approach of the boat, would wake those next to them; and the alarm being thus gradually communicated, the whole herd would be awaked. But they were seldom in a hurry to get away, till after they had been once fired at. They then would tumble over one another into the sea, in the utmost confusion. And if we did not, at the first discharge, kill those we fired at, we generally lost them, though mortally wounded. Vast numbers of these animals would follow and come close up to the boats; but the flash of a musket in the pan, or even the pointing of a musket at them, would send them down in an instant. The female Walrus will defend her offspring to the very last, and at the expense of her own life, whether in the water or upon the ice. Nor will the young one quit the dam, though she be dead; so that, if one be killed, the other is a certain prey.”

We are informed by Crantz, in his account of Greenland, that Walruses, when playing about in the water, have been frequently observed, with their long tusks, to draw sea-fowl beneath the surface, and after a little while, to throw them up into the air. As they are not

carnivorous animals, but live entirely on shell-fish and marine plants, they do not eat these birds, consequently this can be done only out of wantonness and frolic.

The tusks of the Walrus, which weigh from ten to thirty pounds each, are used as ivory; but the animals are sought after principally for the sake of their oil. A very strong and elastic leather, it is said, may be prepared from the skin. The animals frequently weigh from 1500 to 2000 pounds, and yield from one to two barrels of oil each.

THE WHALE-TAILED MORSE, OR MANATI*.

These animals frequent chiefly the seas that lie betwixt America and Kamtschatka, and are seldom seen upon the shore, unless driven there by tempestuous weather. They are always found in herds, in which the old ones keep behind, and drive the young ones before them, some at the same time going along the sides, by way of protection. They live in families, each consisting of perhaps a male and female, a half-grown young one, and a new-born cub; and these families frequently unite, so as to form vast droves.

In their manners they are peaceable and harmless, and have a very extraordinary attachment to each other. When one of them is hooked, or struck with a harpoon, the whole herd will attempt its rescue. Some

* **DESCRIPTION.** The length of the whale-tailed Manati is sometimes nearly twenty-eight feet, and the weight as much as eight thousand pounds. The head is small. The lips are double; and, near the junction of the jaws, the mouth is filled with white tubular bristles, which are of use to prevent the food from running out of their mouth with the water. The eyes are extremely small, as also are the orifices of the ears. The tail is thick and strong; ending in a black, stiff fin. The skin is thick, hard, and black, and full of inequalities, like the bark of oak; and beneath this there is a thick blubber.

SYNONYMS. *Trichechus borealis.* *Linnaeus.*—*Le Grand Lamantin* de Kamtschatka. *Buffon.*—*Morskua Korowa*, by the Russians.—*Whale-tailed Manati.* *Pennant.*

will strive to overset the boat by going beneath it; others will fling themselves on the rope of the hook, and press it down in order to break it; and others again will make the utmost efforts to wrench the instrument out of the body of their wounded companion.

In their conjugal affection, if such it may be termed, they are most exemplary. A male, after having used all his endeavours to release his mate, which had been struck, pursued her to the very edge of the water; and no blows that were given could force him away. As long as the deceased female continued in the water, he persisted in his attendance; and even for three days after she was drawn on shore, cut up, and carried away, he was observed to remain in expectation of her return.

These animals, which, like the last species, are eagerly pursued by seamen for the sake of their blubber and skins, are generally caught by means of a harpoon fastened to a long line. The strongest man in the boat strikes the instrument into the nearest animal. This done, twenty or thirty people on shore seize the rope, and drag the creature to land. The poor beast, assisted by its faithful companions, makes every possible resistance: it clings with its feet to the rocks, till it leaves the skin behind; and often great fragments of rock will fly off before it can be secured.

The flesh of these animals is coarser than beef, and does not soon putrefy: that of the young ones is stated to be not much unlike veal.

THE ROUND-TAILED MANATI*.

Sometimes, in their frolicsome moods, the Round-tailed Manati are observed to leap to great heights above the surface of the water. They chiefly delight in

* DESCRIPTION. The Round-tailed Manati are about six feet in length, and three or four in circumference. They have

shallow waters near low land, and in places that are secure from surges, and where the tides run gently. Marine plants seem to constitute their principal food.

They are caught by means of harpoons; and the affection of the parent for her offspring is as conspicuous in this as in the last species. If a young one be with its mother when she is struck by a fisherman, careless of her own sufferings she affectionately takes it under her fins or feet, to protect it from her own fate. But how cruelly do mankind reward them for these tender offices! The young one, which will never forsake its dam, even in the greatest distress, is, on these occasions, considered in no other light than a certain prey.

We are told that this species of Manati is often tamed by the native inhabitants of America, and that it delights in music. A governor of Nicaragua is said to have kept one of them in a lake near his house, for six-and-twenty years. The animal was usually fed with bread, and fragments of victuals, in the same manner as fish are fed in a pond. He became so familiar, that, in tameness and docility, he nearly equalled what has been boasted by the ancients, of their Dolphin. The domestics gave him the name of Matto; and, when any of them came at the regular hour to feed him, and called him by his name, he would immediately approach the shore, and take food out of their hands. Sometimes he would even crawl up to the house to receive it; and when there, would play with the servants and children. According to Peter Martyr, the writer of the account, this animal has been known even to carry persons across the lake on his back. From circumstances similar to

a short, thick neck, small eyes, and thick lips; are very thick about the shoulders, and taper gradually to the tail, which is broad and round. The skin is thick and hard, and has a few hairs scattered over it.

SYNONYMS. *Trichechus Manatus*. *Linnaeus*.—*I. Manatin*. *Buffon*.—*Sea Cow*, *Round-tailed Manati*. *Pennant*.—*Shaw's Gen. Zool. Pl. 69*.

these, some writers have been led to imagine not only that the Dolphin, but that the Mermaids and Syrens, of the ancients, were, in reality, no other than this species of Manati.

These animals are found in most of the great rivers of Africa, from Senegal to the Cape of Good Hope; and in many of those of the eastern coasts of South America. In the river of Amazon, they are often seen nearly a thousand leagues from its mouth.

Their flesh, as food, is stated to be white, sweet, and salubrious. The thicker parts of the skin, cut into slices, and dried, become very tough, and are used for whips. The thinner parts, which are more pliant, serve the Indians as thongs for fastening together the sides of their canoes.

*Sea-Ape Manati**. We are informed by Mr. Steller, that he saw, off the coast of America, a marine animal, which he denominates a Sea-ape. He states, that it was extremely playful, and amused all who saw it by a great number of frolicsome tricks. It sometimes swam on one, and sometimes on the other side of the ship, gazing at it with great admiration. Occasionally it would stand erect, for a considerable time together, with one third of its body above the water; then dart beneath the ship and appear on the other side, and repeat the same for twenty or thirty times successively. It would frequently rise with a sea-plant in its mouth, not unlike the bottle-gourd, toss it up and catch it, and play with it a thousand antics.

* This animal, though placed by Mr. Pennant among the Manati, seems rather to belong to the Seals. Its head was somewhat like that of a Dog, and the ears were sharp and upright. The eyes were large, and there were strong whiskers on each lip. The body was round and conoid, the thickest part near the head; and the animal was, apparently, destitute of feet.

Ferae*.

OF THE SEALS IN GENERAL †.

There is a very close alliance betwixt the Seals and the Manati; most of them having the same kind of elongated body, and fin-like feet. These animals, as well as the Manati, inhabit the waters, where they swim with great ease. In summer they live much on the shores, but in winter they confine themselves almost entirely to the sea. Their flesh, fat, and hides, are all of use, both in an economical and commercial view.

THE COMMON SEAL ‡.

The dens or habitations, in which these animals most commonly reside, are hollow rocks, or caverns, near the sea, but out of the reach of the tide. In the summer-time they will frequently leave the water, to bask or sleep in the sun on the large stones or shivers of rocks.

* Most of the animals belonging to this order have six front teeth, of a somewhat conical shape, both in the upper and under jaw. Next to these are strong and sharp canine-teeth; and the grinders are formed into conical or pointed processes. Their feet are divided into toes, which are armed with sharp hooked claws.

† In their upper jaw the Seals have six parallel and sharp-pointed fore-teeth, the exterior ones of which are the largest; and in the lower jaw four, that are also parallel, distinct, and equal. There is one canine-tooth in each jaw; and five grinders above, and six below, all of which have three knobs or points.

‡ See Plate v. Fig. 2.

DESCRIPTION. The usual length of these animals is five or six feet. The head is large and round; the neck small and short; and on each side of the mouth there are several strong bristles. From the shoulders the body tapers to the tail. The eyes are large: there are no external ears; and the tongue

They are, however, extremely watchful, never, says Mr. Pennant, sleeping long without moving. At intervals of about a minute or two, they raise their heads, to see that they are not threatened with danger. Providence seems to have given to them this propensity, because, being destitute of auricles or external ears, they consequently are neither able to hear quickly, nor from a great distance.

In their proper depth of water these animals are very rapid in their motions. They will dive like a shot, and, in a few moments afterwards, rise at a distance of forty or fifty yards. A person of the parish of Sennan, in Cornwall, once saw a Seal in pursuit of a mullet. The Seal turned it to and fro, in deep water, as a greyhound does a hare. The mullet, at last, found that it had no way to escape but by running into shoal-water. The Seal pursued; and the former, to get more surely out of danger, threw itself on its side, by which means it darted into shallower water than it could have swam in with the depth of its paunch and fins, and thus escaped.

Seals, if taken young, are capable of being tamed; they will follow their master like a dog, and come to him when called by the name that is given to them. Some years ago a young Seal was thus domesticated. It was taken at a little distance from the sea, and was generally kept in a vessel full of salt water; but sometimes it was allowed to crawl about the house, and even to approach the fire. Its natural food was regularly

is cleft or forked at the end. The legs are very short; and the hinder ones are placed so far back, as to be of but little use, except in swimming. The feet are all webbed. The tail is short. The animals vary in colour; their short, thick-set hair being sometimes gray, sometimes brown or blackish, and sometimes even spotted with white or yellow. *Shaw's Gen. Zool.* i. 251.

SYNONYMS. *Phoque vitulina.* Linn.—Seal, or Sea Calf.
Var.—Phoque. *Buffon.*—*Bingley's Mem. of Brit. Quad. Pl.* 6.

procured for it; and it was carried to the sea every day, and thrown in from a boat. It used to swim after the boat, and always allowed itself to be taken back. It lived thus for several weeks; and probably would have lived much longer, had it not been sometimes too roughly used.

A Seal that was exhibited in London, in the year 1750, answered to the call of his keeper, and attended to whatever he was commanded to do. He would take food from the man's hand, crawl out of the water, and, when ordered, would stretch himself out at full length on the ground. He would thrust out his neck and appear to kiss the keeper, as often as the man pleased; and when he was directed, would again return into the water.

Some time ago, a farmer of Aberdowr, a town on the Fifeshire side of the banks of the Frith of Forth, in going out among the rocks to catch lobsters and crabs, discovered a young Seal, about two feet and a half long, which he brought home. He offered it some pottage and milk, which the animal greedily devoured. It was fed in this manner for three days, when the man's wife, considering it an intruder in her family, would not suffer it to be kept any longer. Taking some men of the town along with him for the purpose, her husband threw it into the sea; but notwithstanding all their endeavours, it persisted in returning to them. It was agreed that the tallest of the men should walk into the water as far as he could, and, having thrown the animal in, that they should hide themselves behind a rock at some distance. This was accordingly done; but the animal returned from the water, and soon discovered them in their hiding-place. The farmer again took it home, where he kept it for some time; but at length growing tired of it, he had it killed for the sake of its skin.

We are informed that Seals delight in thunder-storms; and that, during these times, they will sit on the rocks, and contemplate with apparent pleasure and gratifica-

tion the convulsion of the elements. The Icelanders entertain respecting these animals, a strange superstition. They believe them to resemble the human species more than any other creature; and that they are the offspring of *Pharaoh* and his host, who were converted into Seals when they were overwhelmed in the *Red Sea*.

The females produce two or more young-ones at a birth. These, in northern climates, they deposit in cavities of the ice; and the male makes a hole through the ice near them, for a speedy communication with the water. Into this they always plunge with their offspring, the moment they observe a hunter approach; and at other times they descend into it spontaneously in search of food. The manner in which the male Seals make these holes is astonishing: neither their teeth nor their paws have any share in the operation. It is performed, says M. Acerbi, solely by their breath. When the females come out of the sea, they bleat *like sheep* for their young: and though they often pass among hundreds of other young ones before they come to their own, yet they will never suffer any of the strangers to suck them. About a fortnight after their birth, they are taken out to sea, and instructed in swimming and seeking their food: when they are fatigued, the parent is said to carry them on her back. The Seal-hunters in Caithness assured Mr. Pennant that their growth was so rapid, that in nine tides (about fifty-four hours) after their birth, they became as active as their parents.

These animals are pursued and killed for the advantage of their skins and oil. The time when this is done is generally in October, or the beginning of November. The hunters, furnished with torches and bludgeons, enter the mouths of the caverns about midnight, and row in as far as they can. They then land; and, having stationed themselves in proper places, begin by making a great noise, which alarms the animals, and brings them down in confusion from all directions

towards the sea. In this hazardous employment much care is requisite on the part of the hunters to avoid the throng, which presses down upon them with great impetuosity, and bears away every thing that opposes its progress; but when the first crowd has passed, they kill great numbers of young ones, which generally straggle behind.

To the inhabitants of Greenland, Seals are animals of great importance. The sea is to these people what corn-fields are to us; and the Seal-fishery is their most copious harvest. The flesh supplies them with their principal food: the fat furnishes them with oil for their food, their lamps, and fires; and the fibres of the sinews serve better for sewing with than thread or silk. Of the skins of the entrails, this people make their windows, curtains for their tents, and shirts; and part of the bladders they use in fishing, as buoys or floats to their harpoons. Of the bones they formerly made all those instruments and working-tools that are now supplied to them by the introduction of iron. Even the blood is not lost; for they boil that, with other ingredients, as soup. Of the skins they form clothing, coverings for their beds, houses, and boats, and thongs and straps of every description. To be able to pursue and kill Seals, is the height of the Greenlanders' desires and pride; and to this labour, which is in truth an arduous one, they are trained from their childhood.

The hunting of the Seal also sets the courage and enterprise of the Finlander in the strongest possible light. The season for this chase begins when the sea breaks up, and the ice floats in shoals upon the surface. Four or five peasants will go out to sea in one small open boat, and will often continue more than a month absent from their families. Thus do they expose themselves to all the horrors of the northern seas, having only a small fire, which they kindle on a sort of brick hearth, and living on the flesh of the Seals which they kill. The fat and skins they bring home. The perils with which these voyagers have to struggle, are

almost incredible. They have incessantly to pass betwixt masses of ice, which threaten to crush their little bark to atoms. They mount the floating shoals; and, creeping along them, steal cautiously upon the animals, and kill them as they repose on the ice.

The Common Seals are found on most of the rocky shores of Great Britain and Ireland, and especially on those of Scotland. They inhabit all the European seas; and are found considerably within the arctic circle, in the seas both of Europe and Asia, and even upon the shores of Kamtschatka.

Their usual food consists of fish and other marine productions, all of which they eat beneath the water. When they are in the act of devouring fish that abound in oil, the place may be easily remarked by the smoothness of the waves immediately above. The flesh of Seals formerly found, in our country, a place at the tables of the great; as appears from the bill of fare of a vast feast which archbishop Nevil gave in the reign of king Edward the Fourth.

The voice of a full-grown Seal is hoarse, and not unlike the barking of a dog; and that of the young ones resembles, in some measure, the mewing of a kitten.

THE URSINE SEAL*.

Like the species last described, the Ursine Seals live in families; every male being surrounded by from eight to fifty females, whom he guards with the utmost jealousy. Each family keeps separate from the others,

* See Plate xi. Fig. 1.

DESCRIPTION. The males are about eight feet in length, but the females are much smaller. Their bodies are thick, decreasing somewhat towards the tail. The nose projects like that of a Pug Dog; and the eyes are large and prominent. The fore-legs are about two feet long, and, with the feet, have somewhat the appearance of turtles' fins. The hind legs are rather shorter; and have five toes, separated by a web. The

although they lie by thousands on the shores which they inhabit. The males exhibit great affection towards their offspring, and equal tyranny towards the females. They are fierce in the protection of the former; and, should any one attempt to carry off their cub, they will stand on the defensive, while the female conveys it away in her mouth. Should she, however, have the misfortune to drop it, the male instantly quits his enemy, falls on her, and beats her against the stones till he leaves her for dead. But if the young one be entirely carried off, he appears excessively affected, sheds tears, and exhibits every mark of sorrow.

Those animals that, through age or impotence, are deserted by the females, withdraw themselves from society, and not only become splenetic, peevish, and quarrelsome, but so much attached to their own stations, as to prefer death to the loss of them. If they perceive another animal approaching them, they are instantly roused from their indolence, snap at the encroacher, and give him battle. During the fight, they often insensibly intrude on the station of their neighbour, who then joins in the contest: so that at length the civil discord, attended with hideous growls, spreads along the whole shore.

This is one of the causes of the disputes which take place among these irritable creatures. But a much more serious cause is, when an attempt is made to seduce away any of their females. A battle is the sure consequence of the insult, and sad indeed is the fate of the vanquished animal: he instantly loses all his females, who immediately desert him and attach themselves to the victor.

general colour of the hair is black; but that of the old ones is tipped with gray. The females are ash-coloured.

SYNONYMS. *Phoca Ursina*. Linn.—Sea Cat. Grieve.—Ursine Seal. Pennant.—Shaw's Gen. Zool. Pl. 72.—Bew. Quad. p. 508.

When only two of the animals are engaged in combat, they rest at intervals, lying down near each other; then, rising both at once, they renew the battle. They fight with their heads erect, and turn them aside to avoid the blows. As long as their strength continues equal, they use only their fore-paws; but the moment that one of them fails, the other seizes him with his teeth, and throws him upon the ground. The wounds they inflict are very deep, and like the cut of a sabre; and it is said, that in the month of July scarcely one is to be seen that has not some mark of this description. At the conclusion of an engagement, such as are able throw themselves into the sea, to wash off the blood. They are exceedingly tenacious of life, and will sometimes live a fortnight after receiving such wounds as would immediately have destroyed any other animal.

Besides their notes of war, the Ursine Seals have several others. When they lie on the shore, and are diverting themselves, they low like oxen. After victory, they make a noise somewhat like the chirping of a cricket; and after a defeat, or after receiving a wound, they mew like a cat.

When they come out of the water, they shake themselves, and smooth their hair with their hind-feet; apply their lips to those of the females, as if to kiss them; lie down and bask in the sun with their hind legs up, which they wag as a dog does his tail. Sometimes they lie on their back; and sometimes roll themselves up into a ball, and thus fall asleep. They not unfrequently swim on their back, and so near the surface of the water that their hind feet are quite dry. They cut through the waves with great rapidity, frequently swimming at the rate of seven or eight miles an hour. Their cubs are as sportive as puppies, have mock fights, and tumble one another about on the ground. The male parent looks on with a sort of complacency, parts them, licks and kisses them, and, as it is

said, seems to take a greater affection to the victor than to the vanquished.

On Behring's Island these animals are found in such numbers as almost to cover the whole shore; and travellers are sometimes obliged, for their own safety, to leave the sands and level country, and go over the rocks and hills. It is, however, remarkable, that they only frequent that part of the coast which lies towards Kamtschatka. In the beginning of June they retire southward, for the purpose of bringing forth their offspring; and return towards the end of August. They seldom produce more than a single young-one at a birth. This they continue to nurse for about three months, by the end of which time it has acquired sufficient strength and activity to provide its own sustenance.

THE BOTTLE-NOSED SEAL*.

So great is the quantity of fat, or blubber, contained betwixt the skin and the flesh of these animals, that, in the largest of them, it is at least a foot in depth. Consequently, when in motion, they have somewhat the appearance of immense skins filled with oil: the tremulous motion of the blubber being plainly discernible beneath the surface.

They are of a lethargic disposition, and when at rest are not easily disturbed. It is not difficult to kill them;

* DESCRIPTION. The male of this species measures from fifteen to twenty feet in length; and is distinguished from the female by a large snout, projecting five or six inches beyond the extremity of the upper jaw. This snout the animal inflates when he is irritated, thus giving it the appearance of an arched or hooked nose. The skin is thinly covered with a rust-coloured hair. The feet are short, and the hinder ones so webbed as to appear like fins. In the upper jaw there are four front teeth, and in the lower jaw only two.

SYNONYMS. *Phoca leonina*. *Linnaeus*.—Sea-Lion. *Anom.* Bottle-nosed Seal. *Pennant*.—*Shaw's Gen. Zool. Pl.* 73.

for, in consequence of their sluggish and unwieldy motions, they are incapable either of escaping or resisting. A sailor, however, was one day carelessly employed in skinning a young one that he had just killed, when the female, from whom he had taken it, came upon him unperceived, and bit him so dreadfully, that he died a little while afterwards.

These animals seem to divide their time almost equally betwixt the land and sea. They continue at sea during the summer, and coming on shore at the commencement of winter, reside there all that season. When on shore, they feed on the grass and verdure which grow on the banks of the fresh-water streams; and, when not employed in feeding, they sleep in herds, in the most miry places they can find. Like the Ursine Seals, each herd seems to be under the direction of a large male; which the seamen ludicrously style the Bashaw, from the circumstance of his driving away females from the other males, and appropriating them to himself. These Bashaws, however, do not arrive at this envied superiority without many bloody and dreadful contests, of which their numerous scars generally bear evidence. Their battles are frequent, and sometimes extremely furious.

It has been remarked, that each herd places at a distance some of the males as sentinels; and that these never fail to give the alarm if any thing hostile approaches. The noise they make for this purpose is very loud, and may be heard at a considerable distance. Their usual voice is a kind of loud grunting; or sometimes a snorting, like that of horses in full vigour.

The Bottle-nosed Seals are usually found in the seas around New Zealand, the Island of Juan Fernandez, and the Falkland Islands.

THE LEONINE SEAL*.

Leonine Seals are found in great numbers on the eastern shores of Kamtschatka. They inhabit chiefly the most rocky situations; and, by their loud and tremendous roaring, are frequently of use during foggy weather, in giving warning to sailors of their near approach to the coast.

If a human being appear among them, they immediately run off toward the sea; and when attacked or disturbed in their sleep, they seem to be seized with horror; in their ludicrous attempts to escape, they fall into the utmost confusion, and tumble down, and tremble so violently, that they are scarcely able to use their limbs. When, however, they find it impossible to escape without fighting, they become desperate, and turn on their assailant with vast noise and fury. But when they find themselves uninjured, and that there is no intention to assail them, they soon overcome their fear of mankind. Steller, when he was on Behring's Island, lived for six days in a hovel that was surrounded by these animals. They were soon reconciled to him, would observe, with great apparent calmness, what he was doing; would lie down near him, and even suffer him to take hold of and play with their cubs.

The Leonine Seals have often severe disputes for the

* **DESCRIPTION.** The Leonine Seal has a large head and eyes. The nose turns up, somewhat like that of a Pug Dog. The ears are conical and erect; and, along the neck of the male, there is a mane of stiff curled hair. The whole neck is covered with long, waved hair, not much unlike that of the Lion. The hair of the other parts of the body is short and red: that of the female yellowish. At a certain age these animals become gray. Their feet resemble those of the Ursine Seal. The weight of a large male is about 1600 pounds. The males are frequently from 16 to 18 feet long, but the females seldom exceed eight.

SYNONYMS. *Phoca jubata.* *Linnaeus.*—Sea Lion. *Cook.*
Forster.—Leonine Seal. *Pennant.*—*Shaw's Gen. Zool. Pl. 74.*





J. Shury del. et sculp.

1. Arctic Walrus. 2. Seal. 3. White Bear. 4. Penguin.

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possession of their females; and Steller had an opportunity of witnessing several of their conflicts. He once was witness to a duel between two males which lasted for three days, and in which one of them received above a hundred wounds. The Ursine Seals that were among them never interfered, but always hastened out of the way of their battles.

The females bring forth each a single young-one at a birth. The cubs are not sportive, like most other young animals, but seem stupified by much sleep. They are often taken by their parents into the water, and taught to swim; and when they are tired, they climb on their mother's back. It is said, however, that the males frequently push them off again, in order to habituate them to this exercise.

The chase of these animals is esteemed by the Kamtschadales an occupation of the highest honour. When they find one of them asleep, they approach it against the wind; strike a harpoon, fastened to a long cord, into its breast, and run off with the utmost precipitation. The other end of the cord, being fastened to a stake, prevents the animal from running entirely away, and they principally effect his destruction by flinging their lances into him, or shooting him with arrows. As soon as he is exhausted, they venture near enough to kill him with their clubs. When a Leonine Seal is discovered alone on the rocks, they shoot him with poisoned arrows. Immediately he plunges into the sea; but, unable to bear the poignancy of his wounds in the salt water, swims in agony to the shore. If opportunity allow, they transfix him with their lances; if not, they leave him to die of the poison.

During about two months of the summer, the full-grown males abstain almost entirely from eating, and indulge themselves in indolence and sleep. Their voice is not much unlike the deep bellowing of a bull. The young ones bleat like sheep.

THE DOG TRIBE.*

All the animals belonging to this tribe are carnivorous, swift of foot, and well adapted to the chase; but, when urged by necessity, they are able to subsist on vegetable food. In a wild state they usually associate in immense packs. These are often so powerful as to make war with, and overcome, many beasts of prey which, individually, are much more strong and ferocious than themselves.

The females produce from three or four, to eight or ten young-ones, at a litter.

THE COMMON DOG†.

To no animal are mankind so much indebted for services and affection as to the Dog. Among all the various orders of brute creatures, none have hitherto been found so entirely adapted to our use, and even to our protection, as this. There are many countries, both of the old and new continent, in which, if man were deprived of this faithful ally, he would unsuccessfully resist the foes that surround him, seeking opportunities to destroy his labour, attack his person, and encroach upon his property. His own vigilance, in many situations, could not secure him, on the one hand, against their rapacity, nor on the other against their speed. The Dog, more tractable than any other animal, conforms himself to the movements and habits of his master. His diligence, his ardour, and his obedience, are inexhaustible;

* The generic characters of the Dog are these:—He has six cutting teeth in the upper jaw; and those at the sides are longer than the intermediate ones, which are lobated. In the under jaw there are also six cutting teeth; the lateral ones lobated. There are four canine-teeth, one on each side, both above and below; and six or seven grinders.

† SYNONYMS. *Canis familiaris*. *Linnaeus*.—*Le Chien*. *Buffon*.—Faithful Dog. *Pennant*.

and his disposition is so friendly, that, unlike every other animal, he seems to remember only the benefits he receives: he soon forgets our blows; and instead of discovering resentment while we chastise him, he exposes himself to torture, and even licks the hand from which it proceeds.

The care of the Dog in directing the steps of the blind, affords an instance of his obedience and fidelity, which is peculiarly deserving of notice. There are few persons who have not seen some of these unfortunate objects thus guided along through the winding streets of a town or city, to the spot where they are to supplicate charity of passengers. In the evening the Dog safely conducts his master back, and receives as the reward of its services, that scanty pittance which wretchedness can bestow. Mr. Ray, in his Synopsis of Quadrupeds, informs us of a blind beggar who was thus led through the streets of Rome by a middle-sized Dog. This Dog, besides leading his master in such a manner as to protect him from all danger, had learned to distinguish both the streets and houses where he was accustomed to receive alms twice or thrice a week. Whenever the animal came to any one of these streets, he would not leave it till a call had been made at every house where his master was usually successful in his petitions. When the beggar began to ask alms, the Dog lay down to rest; but the man was no sooner served or refused, than the dog rose spontaneously, and, without either order or sign, proceeded successively to all the other houses. "I observed, not without pleasure and surprise, (says Mr. Ray,) that when a halfpenny was thrown from a window, such were the sagacity and attention of this Dog, that he went about in quest of it, took it from the ground with his mouth, and put it into the blind man's hat. Even when bread was thrown, the animal would not taste it, unless he received it from the hand of his master."

It is possible to train these animals in such a manner that they may be entrusted to go to market with

money, on which occasion they will repair to a known shop, and carry home provisions in safety. Some years since, a person who lived at the turnpike-house about a mile from Stratford on Avon, had trained a Dog to go to the town for such small articles of grocery as he wanted. A note mentioning the things was tied round the Dog's neck, and in the same manner the articles were fastened, and the commodities were always brought safe home.

It is recorded of a Dog belonging to a nobleman of the Medici family, that it always attended at its master's table; changed the plates for him; and carried him his wine in a glass placed on a salver, without spilling the smallest drop. This animal would also hold the stirrup in its teeth while its master was mounting his horse.

The sagacity and attention of the Dog are, indeed, so great, that it is not difficult to teach him to dance, hunt, leap, and exhibit a thousand pleasing dexterities. The feats performed by the dancing dogs exhibited some years ago at Sadler's Wells, will be long remembered. After storming a fort, and performing various other exploits, one of them was brought in as a deserter, was shot, and carried off as dead by his companions. The mode in which a Dog is taught to point out different cards that are placed near him, is this. He is first taught, by repeated trials, to know something by a certain mark; and then to distinguish one ace from another. Food is frequently offered to him on a card that he is unacquainted with, after which he is sent to search it out from the pack; and, after a little experience, he never mistakes it. Profiting by the discovery of receiving food and caresses as a reward for his care, he soon becomes able to know each particular card, which, when it is called for, he brings with an air of gaiety, and without any confusion; and in reality, it is no more surprising to see a Dog distinguish one card from thirty others, than it is to see him distinguish in the street his master's door from those of the neighbours.

Plutarch relates, that in the theatre of Marcellus;

a Dog was exhibited before the Emperor Vespasian, so well instructed as to excel in every kind of dance. He afterwards feigned illness in a manner so natural as to astonish the spectators. He first exhibited symptoms of pain; then, falling down as if dead, would suffer himself to be carried about in that state. Afterwards, at the proper time, he seemed to revive, as if waking from a profound sleep; and then jumping and sporting about, he showed every demonstration of joy.

But of all the educational attainments by which the Dog has been distinguished, that of learning to speak seems to be the most extraordinary. The French academicians, however, mention a Dog in Germany, which would call, in an intelligible manner, amongst other things, for tea, coffee, or chocolate. The account is from no less eminent a person than the celebrated Leibnitz, who communicated it to the Royal Academy of France. This Dog was of a middling size, and was the property of a peasant in Saxony. A little boy, the peasant's son, imagined that he perceived in the Dog's voice an indistinct resemblance to certain words, and therefore took it into his head to teach him to speak. For this purpose he spared neither time nor pains with his pupil, who was about three years old when this his learned education commenced; and at length he made such progress in language, as to be able to articulate as many as thirty words. Leibnitz declares that he himself heard him speak; and the French academicians add, that, unless they had received the testimony of so great a man as this, they should scarcely have dared to report the circumstance.

The inhabitants of some countries admire the Dog as food. In the South Sea Islands these animals are fattened with vegetables, which the natives savagely cram down their throat when they will voluntarily eat no more. They are killed by strangling; and the extravasated blood is preserved in cocoa-nut shells, and baked for the table. The negroes of the coast of Guinea are so partial to the flesh of these animals, that

they frequently give considerable prices for them: a large sheep for a Dog was formerly, and probably is now, a common article of exchange. Even the ancients esteemed a young and fat Dog to be excellent eating. Hippocrates ranks it with mutton or pork; and the Romans particularly admired the flesh of sucking whelps.

Dogs are found in a wild state in Congo, Lower Ethiopia, and towards the Cape of Good Hope; in South and North America, New Holland, and several other parts of the world: and the varieties are, perhaps, more numerous of this species, than of any other known animals. The following is an enumeration of those that have been distinctly ascertained.

- | | |
|------------------------------|---------------------------|
| 1 New Holland Dog. | * 14 Common Greyhound. |
| 2 Pomeranian Dog. | 15 Italian Greyhound. |
| 3 Siberian Dog. | 16 Russian Dog. |
| 4 Iceland Dog. | * 17 Lurcher. |
| * 5 Shepherd's Dog. | 18 Newfoundland Dog. |
| * 6 Water Dog. | * 19 Mastiff. |
| * 7 Spaniel. | * 20 Bull-Dog. |
| * 8 Setter. | * 21 Terrier. |
| * 9 Hound. | * 22 Turnspit. |
| * 10 Bloodhound. | 23 King Charles's Dog. |
| * 11 Pointer. | 24 Maltese Dog. |
| 12 Dalmatian or Spotted Dog. | 25 Naked Dog. |
| * 13 Irish Greyhound, or | 26 Pug Dog. |
| Wolf Dog. | 27 Alco, or Peruvian Dog. |

The Siberian Dog†. The use to which these Dogs are peculiarly applied, is the drawing of sledges over frozen snow, in the various countries where they are found, within the Arctic Circle, and particularly in Siberia and Kamtschatka. These sledges generally carry only a single person, who sits sideways. The

* Those marked with an asterisk are of British origin.

† Chien de Sibéria. *Buffon*.—Greenland Dog. *Brewick's Quad.* p. 331.

number of dogs usually employed is five: four of them are yoked two and two, and the other acts as leader. The reins are fastened, not to the head, but to the collar; and the driver has, therefore, to depend principally on their obedience to his voice. Great care and attention are consequently requisite in training the leader; which, if steady and docile, becomes very valuable: the sum of forty roubles (or ten pounds) is no uncommon price for one of them.

The cry of *tagtag, tagtag*, turns him to the right; and *hougha, hougha*, to the left. The intelligent animal immediately understands the words, and gives to his companions the example of obedience. *Ah, ah*, stops the Dogs; and *ha*, makes them set off.

The charioteer carries in his hand a crooked stick, which answers the purpose both of a whip and reins. Iron rings are suspended at the end of this stick, by way of ornament, and to encourage the Dogs by the noise; for they are frequently jingled for that purpose. If the Dogs are well trained, it is not necessary for the rider to exercise his voice: if he strike the ice with his stick, they will go to the left; if he strike the legs of the sledge, they will go to the right; and when he wishes them to stop, he has only to place the stick between the snow and the front of the sledge. When they are inattentive to their duty, the driver chastises them, by throwing the stick at them. The dexterity of the charioteer, in picking it up again, is very remarkable, and is the most difficult manœuvre in this exercise: nor is it indeed surprising that they should be skilful in a practice, in which they are so essentially interested; for the moment the Dogs find that the driver has lost his stick, unless the leader is both steady and resolute, they set off at full speed, and never stop till either their strength is exhausted, or till the carriage is overturned and dashed to pieces.

The manner in which these animals are generally treated, seems but ill calculated for securing their attachment. During the winter they are fed sparingly

with putrid fish; and in summer they are turned loose, to shift for themselves, till the return of the severe season renders it necessary to the master's interest that they should be again taken into custody, and brought once more to their state of toil and slavery. Whilst yoking to the sledge, they utter the most dismal howlings; but, when every thing is prepared, a kind of cheerful yelping succeeds, which ceases the instant they begin their journey.

These animals have been known to perform, in three days and a half, a journey of almost two hundred and seventy miles; and horses are perhaps not more useful to Europeans, than these Dogs are to the inhabitants of the frozen and cheerless regions of the North. When, during the most severe storm, their master cannot see the path nor even keep his eyes open, they seldom miss their way: whenever they do this, they go from one side to the other, till, by their smell, they regain it; and when in the midst of a long journey, as it often happens, it is found absolutely impossible to travel any further, the Dogs, lying round their master, will keep him warm, and defend him from danger.

*The Spaniel**. It is not only in the sports of the field that the Spaniel is of use to mankind; his fidelity and attachment to those from whom he is accustomed to receive attentions, have been celebrated in almost all ages. Of these, there has perhaps been recorded no instance more satisfactory than the following.

Old Daniel, gamekeeper to the Rev. Mr. Corsellis, had reared a Spaniel, which became so fond of him as to be his constant companion both by night and day. Wherever the gamekeeper appeared, *Dash* was never far distant; and, in his nocturnal excursions to detect poachers, this Dog was of infinite use to him. At these times the Dog altogether neglected the game; and

* *Bingley's Memoirs of Brit. Quad. Pl. No. 9. Var. 3.*

many poachers were detected and caught in consequence of his sagacity.

During the last stage of a consumption, which carried his master to the grave, Dash unwearily attended the foot of his bed; and when he died, the Dog would not quit the body, but lay upon the bed by his side. It was with difficulty he was tempted to eat any food; and although, after the funeral, he was taken to the house of Mr. Corsellis, and caressed with all the tenderness which so fond an attachment naturally excited, he took every opportunity to steal back to the room in the cottage where the gamekeeper breathed his last, and where he would sometimes remain for hours. From this room he visited the grave regularly every day, for fourteen days; at the end of which time he died, notwithstanding all the kindness and attention that were shown him.

The Hound.* The following anecdotes afford a strong proof of the wonderful spirit of the Hound, in supporting a continuance of exertion. Many years since, a very large stag was turned out of Whinfield Park, in the county of Westmorland; and was pursued by the Hounds, till, by fatigue or accident, the whole pack was thrown out, except two staunch and favourite Dogs, which continued the chase during the greatest part of the day. The stag returned to the park from which he set out; and, as his last effort, leapt the wall, and immediately expired. One of the Hounds pursued him to the wall; but, being unable to get over, he lay down, and almost immediately afterwards died: the other was also found dead at a little distance. The length of this chase is uncertain: but, as they were seen at Red-kirks, near Annan in Scotland (distant, by the post-road, about forty-six miles,) it is conjectured

* *Bingley's Mem. of Brit. Quad. Pl. No. 9. Var. 6.*

that the circuitous course they took could not have measured less than *one hundred and twenty miles!*

In the year 1795, in Cambridgeshire, on two foxes being found, the Hounds divided, and fifteen couple and a half (which pursued one of the foxes) are supposed to have run nearly thirty miles, in about an hour and three quarters.

*The Blood-hound**. With our ancestors the Blood-hound was an animal of great request; and as he was remarkable for the fineness of his scent, he was frequently employed in recovering game that had escaped wounded from the hunter. He would follow, with great certainty, the footsteps of a man to a considerable distance: and, in barbarous and uncivilized times, when a thief or murderer had fled, this useful creature would trace him through the thickest and most secret coverts; nor would he cease his pursuit till he had taken the felon. For this reason there was a law in Scotland, that whoever denied entrance to one of these Dogs in pursuit of stolen goods, should be deemed accessory to the theft.

In the Spanish West India Islands there are officers called chasseurs, kept in continual employment. The business of these men is to traverse the country with their Dogs, for the purpose of pursuing and taking up all persons guilty of murder, or other crimes; and no activity, on the part of the offenders, will enable them to escape. The following is a very remarkable instance which happened not many years ago.

A fleet from Jamaica, under convoy to Great Britain, passing through the Gulf of Mexico, beat upon the north side of Cuba. One of the ships, manned with foreigners, (chiefly renegado Spaniards,) in standing in with

* DESCRIPTION. Blood-hounds are tall, beautifully formed animals, and usually of a reddish or brown colour.—*Stingley's Memoirs of British Quadrupeds*, Pl. No. 9. Var. 7.

the land at night, was run on shore. The officers, and the few British seamen on board, were murdered; and the vessel was plundered by the renegadoes. The part of the coast on which the vessel was stranded being wild and unfrequented, the assassins retired, with their booty, to the mountains; intending to penetrate, through the woods, to some remote settlements on the southern side, where they hoped to secure themselves, and elude all pursuit. Early intelligence of the crime had, however, been conveyed to Havanna. The assassins were pursued by a detachment of the *Chasseurs del Rey*, with their Dogs; and in the course of a very few days they were every one apprehended and brought to justice.

The Dogs carried out by the *Chasseurs del Rey*, are all perfectly broken in. On coming up with the fugitive, they bark at him till he stops: they then crouch near him, terrifying him with a ferocious growling, if he attempts to stir. In this position they continue barking, to give notice to the chasseurs, who come up and secure their prisoner.

Each chasseur can only hunt with two Dogs. These people live with their Dogs, and are inseparable from them. At home the animals are kept chained; and when walking out with their masters, they are never unmuzzled nor let out of ropes, but for attack.

Blood-hounds were formerly used in certain districts lying between England and Scotland, that were much infested by robbers and murderers; and a tax was laid on the inhabitants, for keeping and maintaining a certain number of these animals. But as the arm of justice is now extended over every part of the country, and as there are now no secret recesses where villany can be concealed, their services in this respect are become no longer necessary.

Some few of these Dogs, however, are yet kept in the northern parts of the kingdom, and in the lodges of the royal forests; where they are used in pursuit of deer that have been previously wounded. They are also sometimes employed in discovering deer-stealers,

whom they infallibly trace by the blood that issues from the wounds of their victims.

A very extraordinary instance of this occurred in the New Forest, in the year 1810, and was related to me by the Right Hon. G. H. Rose. A person, in getting over a stile into a field near the forest, remarked that there was blood upon it. Immediately afterwards he recollected that some deer had been killed, and several sheep stolen in the neighbourhood: and that this might possibly be the blood of one that had been killed in the preceding night. The man went to the nearest lodge to give information; but the keeper being from home, he was under the necessity of going to Rhinefield Lodge, which was at a considerable distance. Toomer, the under keeper, went with him to the place, accompanied by a Blood-hound. The Dog, when brought to the spot, was laid on the scent; and, after following, for about a mile, the track which the depredator had taken, he came at last to a heap of furze faggots belonging to the family of a cottager. The woman of the house attempted to drive the dog away, but was prevented; and, on the faggots being removed, a hole was discovered in the ground, which contained the body of a sheep that had recently been killed, and also a considerable quantity of salted meat. The circumstance which renders this account the more remarkable is, that the dog was not brought to the scent until more than sixteen hours had elapsed after the man had carried away the sheep.

Another instance of the acuteness of scent in these Dogs, is related by the Hon. Robert Boyle. In order to make trial whether a young Blood-hound was well instructed, he says, that a person of quality caused one of his servants to walk to a town four miles distant, and afterwards to a market-town three miles further. The Dog, without seeing the man he was to pursue, followed him, by the scent, to the above-mentioned places, and this notwithstanding a great multitude of market-people who went along the same road, and of travellers

who had occasion to cross it. When the Blood-hound came to the chief market-town, he passed through the streets without taking notice of any of the people there; nor did he cease his pursuit, till he had reached the house where the man whom he sought was concealed.

The Newfoundland Dog. The great strength and docility of these dogs render them extremely useful to the inhabitants of several parts of the island of Newfoundland, who employ them in bringing down wood, on sledges, from the interior of the country to the sea-coast. Four Newfoundland dogs yoked to a sledge, are able, with apparent ease, to draw three hundred-weight of wood, for several miles. Their docility is as important to their owners as their strength; for they frequently perform these services without a driver. As soon as they are relieved of their load at the proper place, they return in the same order to the woods from which they were dispatched, and where their labours are commonly rewarded with a meal of dried fish.

In many places about Quebec, Professor Kalm saw dogs employed to fetch water from the rivers. He one day saw two great dogs yoked to a cart. They were neatly harnessed like horses, and had bits in their mouths. In the cart was a barrel. The dogs were directed by a boy, who ran behind the cart, and, as soon as they came to the river, they jumped into it of their own accord. When the barrel was filled, the dogs drew their burden up the hill again to the house from which they came. During his stay at Quebec, the professor frequently saw dogs employed in this manner. The boys that attended them had great whips, with which they occasionally struck the dogs to make them go on. Mr. Kalm saw these dogs also employed in drawing wood; and, in winter, it is customary in Canada for travellers to yoke dogs to sledges that are made to hold their clothes, provisions, and other

necessaries. Formerly, before horses came much into use, most of the land-carriage of Canada was performed by dogs.

These animals can swim extremely fast, and with great ease; and their extraordinary sagacity and attachment render them, in particular situations, highly valuable.

In the summer of 1792, a gentleman went to Portsmouth for the benefit of sea-bathing. He was conducted, in one of the machines, into the water; but, being unacquainted with the steepness of the shore, and unable to swim, he found himself, the instant he quitted the machine, nearly out of his depth. The state of alarm into which he was thrown, increased his danger; and, unnoticed by the person who attended the machine, he unavoidably would have been drowned, had not a large Newfoundland Dog, which by accident was standing on the shore and observed his distress, plunged in to his assistance. The Dog seized him by the hair, and conducted him safely to land. The gentleman afterwards purchased the Dog at a high price; and preserved him as a treasure of equal value with his whole fortune.

During a severe storm, in the winter of 1789, a ship belonging to Newcastle was lost near Yarmouth; and a Newfoundland Dog alone escaped to shore, bringing in his mouth the captain's pocket-book. He landed amidst a number of people, several of whom in vain attempted to take from him his prize. The sagacious animal, as if sensible of the importance of the charge, which, in all probability, was delivered to him by his perishing master, at length leapt fawningly against the breast of a man who had attracted his notice among the crowd, and delivered the book to him. The Dog immediately afterwards returned to the place where he had landed, and watched with great attention for all the things that came from the wrecked vessel, seized, and endeavoured to bring them to land.

A gentleman, walking by the side of the river Tyne,

observed, on the opposite side, that a child had fallen into the water: he pointed out the object to his Dog, which immediately jumped in, swam over, and catching hold of the child with his mouth, landed it safely on the shore.

Some years ago, a waterman, whose name was Carr, laid a wager that himself and his Newfoundland Dog, would both jump from the centre arch of Westminster Bridge, and would land at Lambeth within a minute of each other. He jumped off first, and the Dog immediately followed him: but the latter not being in the secret, and seeing his master apparently plunging about in the water, seized him by the neck, and dragged him to shore, to the no small diversion of an immense crowd of spectators.

The Mastiff.* Mastiffs are peculiar to our country, where they are principally of use as watch-dogs; a duty which they discharge not only with fidelity, but frequently with judgment. Some of them will suffer a stranger to come into the enclosure which they are appointed to guard, and will go peaceably along with him through every part of it, so long as he continues to touch nothing; but the moment he attempts to lay hold of any of the goods, or endeavours to leave the place, the animal informs him, first by gentle growling, or, if that be ineffectual, by harsher means, that he must neither do mischief nor go away. He seldom uses violence unless resisted; and even in this case he will sometimes seize the person, throw him down, and hold him there for several hours, or until relieved, without biting him.

A most extraordinary instance of memory in a Mastiff is related by M. D'Obsonville. This Dog, which he had brought up in India from two months old, accompanied him and a friend from Pondicherry to Ben-

* *Bingley's Mem. of Brit. Quad. Pl. No. 9. Var. 10.*

glour, a distance of more than three hundred leagues. "Our journey (he observes) occupied nearly three weeks; and we had to traverse numerous plains and mountains, and to ford rivers, and go along several by-paths. The animal, which had certainly never been in that country before, lost us at Benglour, and immediately returned to Pondicherry. He went directly to the house of M. Beylier, then commandant of artillery, my friend, and with whom I had generally lived. Now the difficulty is, not so much to know how the dog subsisted on the road, (for he was very strong, and able to procure himself food,) but how he could so well have found his way, after an interval of more than a month! This was an effort of memory greatly superior to that which the human race is capable of exerting."

The Mastiff is an excessively bold and courageous animal. Stow relates an instance of a contest between three Mastiffs and a Lion, in the presence of king James the First. One of the Dogs being put into the den, was soon disabled by the Lion, which took him by the head and neck, and dragged him about. Another Dog was then let loose, and was served in a similar manner. But the third, on being put in, immediately seized the Lion by the lip, and held him for a considerable sime; till, being severely torn by his claws, the Dog was obliged to quit his hold. The Lion, exhausted by the conflict, would not renew the engagement; but, taking a sudden leap over the Dogs, fled for safety into the interior part of his den.

The Mastiff, as if conscious of his superior strength, has been known to chastise, with great dignity, the impertinence of an inferior. A large dog of this kind, belonging to the late M. Ridley, Esq. of Heaton near Newcastle, being frequently molested by a mongrel, and teased by its continual barking, at last took it up in its mouth by the back, and with great composure dropped it over the quay into the river, without doing any further injury to an enemy so contemptible.

The Bull-Dog *. When its energies are completely roused, this is doubtless one of the fiercest, and at the same time one of the most courageous, of all animals. His valour in attacking a bull is well known. His fury in seizing, and his invincible obstinacy in maintaining his hold, are truly astonishing. Some years ago, at a Bull-baiting in the North of England, when that barbarous custom was more prevalent than it is at present, a young man, confident of the courage of his Dog, laid a trifling wager that he would, at separate times, even cut off all the animal's feet; and that, after every successive amputation, he would attack the Bull. The unmanly and horrible experiment was tried; and the Dog, apparently inattentive to the injury he had received, continued to seize the Bull with the same eagerness as before.

The Terrier †. There are few animals endowed with more obstinate courage than the Terrier. To the smaller quadrupeds, such as rats, mice, stoats, and some others, he seems to be the natural enemy, and attacks them furiously whenever and wherever he happens to see them. He is not afraid even of the badger, and, though sometimes roughly used by that animal, will combat him with determined fortitude.

An anecdote related by Mr. Hope, and well authenticated by other persons, shows also that the Terrier is both capable of resentment when injured, and of great contrivance to accomplish it. A gentleman of Whitmore, in Staffordshire, used to go twice a-year to London; and being fond of exercise, generally performed the journey on horseback, accompanied most part of the way, by a faithful little Terrier Dog, which, lest he might lose it in London, he always left to the care of Mrs. Langford, his landlady at St. Alban's; and, on

* *Bingley's Mem. of Brit. Quad. Pl. No. 9, Var. 11.*

† *Ibid. Var. 12.*

his return, he was sure to find his little companion well taken care of. The gentleman calling one time, as usual, for his dog, Mrs. Langford appeared before him with a woful countenance:—"Alas! Sir, your Terrier is lost! Our great house-dog and he had a quarrel; and the poor Terrier was so bitten before we could part them, that I thought he could never have got the better of it. But he crawled out of the yard, and no one saw him for almost a week. He then returned, and brought with him another Dog, bigger by far than ours; and they both together fell on our great Dog, and bit him so unmercifully, that he has scarcely since been able to go about the yard, or to eat his meat. Your Dog and his companion then disappeared, and have never since been seen at St. Alban's." The gentleman endeavoured to reconcile himself to the loss. On his arrival at Whitmore, however, he found his Terrier; and, on enquiring into the circumstances, was informed that the animal had been at Whitmore and had coaxed away the great Dog, who it seems had, in consequence, followed him to St. Alban's, and completely avenged his injury*.

Additional Anecdotes respecting Dogs.

A grocer in Edinburgh had a dog, which for some time amused and astonished the people in the neighbourhood. A man who went through the streets ringing a bell and selling penny pies, happened one day to treat this Dog with a pie. The next time he heard the pie-man's bell, the Dog ran to him with impetuosity, seized him by the coat, and would not suffer him to

* An enquiry respecting this circumstance has lately been made of Mr. Langford, surgeon, in St. Alban's. He says that there is now living in St. Alban's one of the inn servants, who has a perfect recollection of the event.

pass. The pieman, who understood what the animal wanted, showed him a penny, and pointed to his master, who stood at the street-door and saw what was going on. The Dog immediately supplicated his master by many humble gestures and looks. The master put a penny into the Dog's mouth, which he instantly delivered to the pieman, and received his pie; and this traffic between the pieman and the grocer's Dog, continued to be daily practised for many months.

At a convent in France, twenty paupers were served with a dinner at a certain hour every day. A dog belonging to the convent did not fail to be present at this regale, to receive the scraps which were now and then thrown to him. The guests, however, were poor and hungry, and of course not very wasteful; so that their pensioner did little more than scent the feast of which he would fain have partaken. The portions were served by a person, at the ringing of a bell, and delivered out by means of what in religious houses is called a *tour*; a machine like the section of a cask, that, by turning round upon a pivot, exhibits whatever is placed on the concave side, without discovering the person who moves it. One day this Dog, which had only received a few scraps, waited till the paupers were all gone, took the rope in his mouth, and rang the bell. His stratagem succeeded. He repeated it the next day with the same good fortune. At length the cook, finding that twenty-one portions were given out instead of twenty, was determined to discover the trick: in doing which he had no great difficulty; for, lying in wait, and noticing the paupers as they came for their different portions, and that there was no intruder except the Dog, he began to suspect the truth; which he was confirmed in when he saw the animal continue with great deliberation till the visitors were all gone, and then pull the bell. The matter was related to the community; and, to reward him for his ingenuity, the Dog was permitted to ring the bell every day for his dinner, on which a

mess of broken victuals was always afterwards served out to him.

Mr. C. Hughes, a country comedian, had a wig which generally hung on a peg in one of his rooms. He one day lent the wig to a brother player, and some time afterwards called on him. Mr. Hughes had his Dog with him, and the man happened to have the borrowed wig on his head. Mr. Hughes staid a little while with his friend; but, when he left him, the Dog remained behind. For some time he stood, looking full in the man's face; then, making a sudden spring, he leaped on his shoulders, seized the wig, and ran off with it as fast as he could; and, when he reached home, he endeavoured, by jumping, to hang it up in its usual place. The same Dog was one afternoon passing through a field near Dartmouth, where a washer-woman had hung out her linen to dry. He stopped and surveyed one particular shirt with attention; then seizing it, he dragged it away through the dirt to his master, whose shirt it proved to be.

In the year 1791, a person went to a house in Deptford, to take lodgings, under pretence that he had just arrived from the West Indies; and, after having agreed on the terms, said he should send his trunk that night, and come himself the next day. About nine o'clock in the evening, the trunk was brought by two porters, and was carried into a bed-room. Just as the family were going to bed, their little house-dog, deserting his usual station in the shop, placed himself close to the chamber-door, where the chest was deposited, and kept up an incessant barking. The moment the door was opened, the dog flew to the chest, against which it scratched and barked with redoubled fury. They attempted to get the dog out of the room, but in vain. Calling in some neighbours, and making them eye-witnesses of the circumstance, they began to move the trunk about; when they quickly discovered that it contained something that was alive. Suspicion becoming very strong, they were induced to force it open; when, to their utter astonish-

ment, they found in it their new lodger, who had thus been conveyed into the house with the intention of robbing it.

A Dog that had been the favourite of an elderly lady, discovered, some time after her death, the strongest emotions at the sight of her picture, when it was taken down to be cleaned. Before this, he had never been observed to notice the painting. Here was evidently a case either of passive remembrance, or of the involuntary renewal of former impressions. Another Dog, the property of a gentleman that died, was given to a friend in Yorkshire. Several years afterwards, a brother from the West Indies paid a short visit at the house where the Dog then was. He was instantly recognised, though an entire stranger, in consequence, probably, of a strong personal likeness. The Dog fawned upon him, and followed him with great affection to every place where he went.

THE WOLF*.

These animals are natives of almost all the temperate and cold regions of the globe; and they were formerly so numerous in this island, that king Edgar commuted the punishment for certain offences into a requisition of a certain number of Wolves' tongues from each criminal; and he converted a heavy and oppressive tax on one of the Welsh princes, into an annual tribute of three hundred Wolves' heads.

It appears from Hollinshed, that Wolves were very noxious to the flocks in Scotland, in 1577: nor were they entirely destroyed till about a century afterwards; when the last Wolf fell in Lochabar, by the hand of Sir

* See Plate vi. Fig. 1.

DESCRIPTION. The Wolf is larger, and more strong and muscular than the Dog. His colour is generally pale gray.

SYNONYMS. *Canis Lupus*. *Linn.*—Loup. *Buffon.*—*Shaw's Gen. Zool. Pl. 75.*—*Bew. Quad. p. 313.*

Ewen Cameron of Lochiel. In ancient times every Scots baron was obliged, by the law, to hunt the Wolf four times a year, attended by all his servants; and every sheriff, with all the barons and freeholders of his county, was annually obliged to have three great wolf-huntings, for the purpose of thinning the race of these destructive animals.

When pressed by hunger, the Wolf, though naturally a coward, becomes courageous from necessity: he then braves every danger, and will venture to attack even the buffalo. Sometimes whole droves of Wolves descend upon the sheep-folds; and, digging the earth under the doors, enter with dreadful ferocity, and put to death every living creature before they depart.

“ By wintry famine roused, from all the tract
Of horrid mountains which the shining Alps,
And wavy Apennine and Pyrennees
Branch out stupendous into distant lands,
Cruel as death! and hungry as the grave!
Burning for blood! bony, and gaunt, and grim!
Assembling Wolves, in raging troops, descend;
And, pouring o’er the country, bear along,
Keen as the North wind sweeps the glossy snow:
All is their prize.”

Although the Wolf is the most gluttonous of quadrupeds, devouring, when excited by hunger, even his own species, yet his rapacity does not exceed his cunning: always suspicious and mistrustful, he imagines every thing he sees is a snare laid to betray him. If he find a rein-deer tied to a post, to be milked, he dares not approach, lest the animal should be placed there only to entrap him; but no sooner is the deer set at liberty, than he instantly pursues and devours it. Such, however, is his extreme cowardice, that, should the deer stand at bay and act on the defensive, he is at once intimidated. Wolves have not unfrequently been caught in pit-falls, along with other beasts, which their fears, even in this confined situation, have not permitted them to attack. Instances have occurred of peasants

falling into these traps, and sitting quietly *tête à tête* with a Wolf, until released by the hunter.

So cautious are these animals in their attack, that, in several parts of the continent, if a man has to traverse alone the forests and wilds, where they are prowling in search of prey, he can sufficiently defend himself against their voracity by only a slight rope, and a bundle of straw or twigs trailed behind him. Dr. Anderson was assured by a respectable gentleman, a general officer, who was resident in Portugal more than thirty years, that this was the method universally practised by the peasants of that country, and, he believed, with invariable success.

In the northern parts of the world, Wolves sometimes wander upon the ice of the sea, in quest of young seals, which they catch asleep there. But this repast frequently proves fatal to them; for the ice, being detached from the shore, carries them to a great distance from the land before they are sensible of it. It is said, that, in some years, large districts are thus delivered from these pernicious beasts.

The Wolf has great strength, especially in the muscles of his neck and jaws: he can carry a sheep in his mouth, and without difficulty can run off with it. When reduced to extremity by hunger, we are told by Pontoppidan that he will swallow mud, in order to allay the uneasy sensations of his stomach. His sense of smelling is peculiarly strong: he scents the track of animals, and follows it with great perseverance. The odour of carrion is perceptible by him at the distance of nearly a mile.

Notwithstanding the savage disposition of the Wolf, he is capable, when taken young, of being tamed. A remarkable instance of this was exhibited in a Wolf belonging to the late Sir Ashton Lever: this animal, by proper education, was entirely divested of the ferocious character of its species. In Eastern countries, and particularly in Persia, Wolves are exhibited as spectacles to the people. When young, they are taught to dance, or

rather to perform a kind of wrestling, with a number of men; and Chardin informs us, that a Wolf well educated in dancing is sometimes sold for five hundred French crowns. M. de Buffon brought up several Wolves. During the first year, he states that they were very docile, and even caressing; and, if well fed, would neither disturb the poultry, nor any other animals; but, that at the age of eighteen months or two years, their natural ferocity began to appear, and it was requisite to chain them, in order to prevent them from running off and doing mischief. One Wolf, till it was eighteen or nineteen months old, he brought up in a court-yard along with fowls, none of which it ever attacked; but, for its first essay, it killed the whole in one night, yet did not eat any of them.

The time of gestation of the Wolf is about three months and a half; and when the females are about to bring forth, they search for some concealed place in the inmost recesses of the forests. After having fixed on the spot, they make it smooth and plain for a considerable space, by tearing up with their teeth all the brambles and brushwood. They then prepare a bed of moss, in which they bring forth five or six young-ones. The mother suckles them for some weeks; but soon teaches them to eat flesh, which she prepares by tearing it into small pieces. She then brings them field-mice, hares, partridges, and fowls, which they at first play with, and then kill. About six weeks after their birth the young-ones leave their den, and follow the mother, who leads them abroad to some neighbouring pool to drink; she conducts them back again, or, when danger is apprehended, obliges them to conceal themselves elsewhere. When they are attacked, she defends them with intrepidity; losing, in this case, every sense of danger, and becoming perfectly furious until they are again in safety.

Of the Wolf there is nothing valuable but his skin, which makes a warm and durable fur. His flesh is so bad, that it is rejected with abhorrence by all other

quadrupeds. The smell of his breath is excessively offensive; since, to appease hunger, he swallows, almost indiscriminately, every thing he can find: corrupted flesh, bones, hair, and skins half tanned, and even covered with lime. In short, the Wolf is in an extreme degree disgusting: his aspect is savage, his voice dreadful, his stench insupportable, his disposition perverse, and his manners brutal and ferocious.

THE STRIPED HYÆNA*.

The ancients entertained many absurd and unaccountable notions respecting this animal. They believed that its neck consisted of but one bone, which was without a joint; that it every year changed its sex; that it could imitate the human voice; and that it had thus the power of charming the shepherds, and riveting them to the place on which they stood.

Hyænas, which are natives of Asiatic Turkey, Syria, Persia, and many parts of Africa, generally inhabit caverns and rocky places; prowling about in the night to feed on the remains of dead animals, or on whatever living prey they can seize. They violate the repositories of the dead, and greedily devour the putrid bodies. They likewise prey on cattle, and frequently commit great devastation among the flocks; yet, when other provisions fail, they are able to subsist on the roots of plants, and on the tender shoots of the palm-trees. They sometimes assemble in troops, and follow the

* **DESCRIPTION.** The Spotted Hyæna is about the size of a large Dog, of a pale grayish-brown colour, and marked across with several distant blackish bands. The hair of its neck is erect, and is continued in a bristly mane along the back. The tail is short, and very bushy. The head is broad and flat, and the eyes have an expression of great wildness and ferocity.

SYNONYMS. *Canis Hyæna.* *Linnaeus.*—*L'Hyæna.* *Buffon.*
—*Striped Hyæna.* *Pennant.*—*Shaw's Gen. Zool. Pl. 78.*—*Bew. Quad. p. 298.*

march of an army, in order to feast on the dead bodies of the slain.

The cry of the Hyæna is very peculiar. It begins with somewhat like the moaning of the human voice, and ends in a noise like that of a person making a violent effort to vomit. His courage is said to equal his rapacity. He will occasionally act on the defensive, and with great obstinacy, against much larger animals than himself. Kæmpfer relates, that he saw an Hyæna which had put to flight two lions; and that he had frequently known an Hyæna to attack the ounce and the panther. There is something in the aspect of this animal that indicates a peculiar gloominess and malignity of disposition; and its manners correspond with its appearance. Instances have, however, occurred of the Hyæna being tamed. Mr. Pennant says, that he saw an Hyæna as tame as a dog; and M. de Buffon, that there was one exhibited at Paris that had been tamed very early, and was apparently divested of all its natural ferocity. In Barbary, Mr. Bruce assures us that he has seen the Moors, in the day-time, take these animals by the ears and haul them along, without their offering any other resistance than that of drawing back.

Mr. Bruce locked up a goat, a kid, and a lamb, all day with a Barbary Hyæna, when it was fasting, and in the evening he found each of the animals alive and unhurt; but, on repeating an experiment of this kind at night, the Hyæna ate up a young ass, a goat, and a fox, all before morning. In Barbary the Hyænas seem to lose their courage, and to fly from man by day; but in Abyssinia, they often prowl about even in the open day, and attack with savage fury every animal they meet with. "These creatures (says Mr. Bruce) were a general scourge to Abyssinia, in every situation, both of the city and the field; and they seemed to surpass even the sheep in number. From evening till the dawn of day, the town of Gondar was full of them. Here they sought the different pieces of slaughtered carcasses which this cruel and unclean people were accustomed to

expose in the streets without burial. Many a time in the night, when the king had kept me late in the palace, on going across the square from the king's house, I have been apprehensive lest they should bite me in the leg. They grunted in great numbers around me, although I was surrounded with several armed men, who seldom passed a night without wounding or slaughtering some of them. One night in Maitsha, being very intent on an observation, I heard something pass behind me towards the bed; but on looking round, could perceive nothing. Having finished what I was then about, I went out of my tent, resolving directly to return: this I immediately did, and in so doing perceived two large blue eyes glaring at me in the dark. I called my servant to bring a light; and we found an Hyæna standing near the head of the bed, with two or three large bunches of candles in his mouth. To have fired at him, would have been at the risk of breaking my quadrant or other furniture; and he seemed, by keeping the candles steadily in his mouth, to wish at that time, for no other prey. As his mouth was full, and he had no claws to tear with, I was not afraid of him; and, with a pike, stuck him as near the heart as I could. It was not until I had done this that he showed any sign of fierceness; but, upon feeling his wound, he dropped the candles, and endeavoured to run up the shaft of the spear to arrive at me, so that I was obliged to draw a pistol from my girdle and shoot him; and nearly at the same time my servant cleft his skull with a battle-axe. In a word, the Hyænas were the plague of our lives, the terror of our night-walks, and the destruction of our mules and asses, which, above every thing else, are their favourite food."

At Dar-Fur, a kingdom in the interior of Africa, the Hyænas come in herds of six, eight, and often more, into the villages at night, and carry off with them whatever they are able to seize. They will kill dogs and asses, even within the enclosures of the houses; and they always assemble wherever a dead camel or other

animal is thrown, and, on these occasions, acting in concert, they will drag it to a prodigious distance: nor are they greatly alarmed at the sight of men, or by the report of fire-arms. Mr. Brown was told, that whenever any one of these animals was wounded, its companions always tore it to pieces and devoured it.

A remarkable peculiarity in the Hyæna is, that when he is first dislodged from cover, or obliged to run, he always, for a considerable distance, appears lame; and sometimes to such a degree as to induce the spectators to suppose that one of his hind legs is broken; but after running some time, this affection goes off, and he escapes swiftly away. The neck, likewise, is so stiff, that in looking behind, or in snatching obliquely at any object, he is obliged to move his whole body, somewhat in the manner of a hog.

The mode of hunting these animals in Barbary, is somewhat extraordinary. A party of ten or twelve persons, accompanied by as many dogs of various kinds, go to a cavern, which they have previously ascertained to be the haunt of an Hyæna. One of the party then strips himself naked, and taking in one hand the end of a rope, with a noose to it, he advances gradually into the cave, at the same time speaking gently and in an insinuating tone, pretending to fascinate the Hyæna by words. When he reaches the animal, he strokes him down the back, which appears to soothe him. He then dexterously slips the noose round his neck, and, by pulling the rope, indicates, to those on the outside of the cave, and who hold the other end, that it is fixed. Having thrown a cloth over the eyes of the Hyæna, he immediately retires behind, and the men pull the rope from without, whilst he urges the animal forward. When they have dragged him to the mouth of the cave, he is attacked and destroyed by the dogs. This is an operation which, if the rope break, is attended with danger to the man who enters the cave; but he is always furnished with a dagger or large knife, for the purpose of defending himself, in case of attack. There

are other modes of hunting these stupid animals, particularly in the night, either by dogs or with guns. In the day-time they never come out of their den, but sit at the further end of it, staring with their eyes fixed. Mr. Jackson, by whom this account is related, says that, in Barbary, the Hyænas are not very ferocious: that, not being afraid of man, they neither attack nor seek to avoid him. In the Southern Atlas, he states that he has seen them led about even by boys; a rope being fastened round the animal's neck, and on each side a communicating rope being attached to it, three or four yards long, and held by a boy.

Hyænas are to be seen in most of the exhibitions of wild beasts in Great Britain. In confinement they become excessively savage and ferocious. Their jaws are much stronger than those of the generality of their tribe. Some years ago there was one at Exeter 'Change about six months old, so very tame that he was occasionally suffered to come out of his den, and run about the exhibition-room. This animal would allow even strangers to approach and pat him, without exhibiting any symptoms whatever of displeasure; and he seemed fond of playing with any of the dogs that happened to come into the room. Still, however, there was a considerable degree of sullenness and ill-nature in his disposition, which, with his age, appeared every day to increase. After having been at Exeter 'Change about two months, he was sold to Mr. Tennant of Pentonville, a dealer in animals. This person, with only a string fixed to the animal's collar, suffered him twice or thrice to go out with him into the fields. He was soon afterwards sold to the owner of a caravan, for the purpose of exhibition in the country. From the unusual confinement in this caravan, his disposition almost immediately became fierce, and he would no longer admit of the approach and caresses of the visitors. Indeed, he did not long survive this change of life, but gradually pined away till he died.

The late Mr. John Hunter, the surgeon, had at Earl's

Court, an Hyæna, about eighteen months old, that was so tame as to admit strangers to approach and touch him. After Mr. Hunter's death, this animal was sold to a travelling exhibitor of animals. For a few months previously to his being carried into the country, he was lodged in the Tower. The keeper of the Tower informed me that he there continued tolerably gentle; so much so, as to allow a person who knew him to enter the den and handle him. When, however, he was confined in the caravan, he soon exhibited symptoms of ferocity equal to those of the most savage Hyænas; and he was at last killed by a tiger, the partition of whose den from his own he had torn down by the enormous strength of his jaws.

The Hyæna, in confinement, is allowed about four pounds weight of food in the day; and he laps about three pints of water. The value of a full-grown Hyæna for exhibition, is from ten to thirty pounds.

THE SPOTTED HYÆNA, OR TIGER-WOLF *.

Natives of several parts of Africa, but particularly numerous at the Cape of Good Hope, these animals are described to be in the greatest degree cruel, mischievous, and formidable. They have frequently been known to enter the huts of Hottentots in search of prey; and from these they sometimes carry off even children. A spotted Hyæna entered a Negro's house on the coast of

* See Plate vii. Fig. 2.

DESCRIPTION. The Spotted Hyæna has a considerable resemblance to the former species; but is larger, and the body is marked with numerous roundish black spots. The face and upper part of the head are black; and along the neck extends an upright black mane. The ground-colour of the body is reddish brown.

SYNONYMS. *Canis Crocuta.* Linn.—Tiger-wolf. *Sparrm.*—Quumbengo, or Jackal. *Barbot.*—Jackal, or Wild Dog. *Bourman.*—Spotted Hyæna. *Penn.*—Laughing Hyæna. *Shaw's Gen. Zool. Pl. 72.*—*Bew. Quad, p. 301.*

Guinea, and laid hold of a girl; and, notwithstanding her utmost resistance, he threw her on his back, holding her fast by one of the legs, and was making off with her; when the men, whom the screams of the girl had roused from sleep, came to her relief. The beast dropped her, and made his escape.

Great numbers of these animals attend almost every dark night about the shambles at the Cape, to carry away the filth and offal left there by the inhabitants; and they are allowed to do this without molestation. The dogs too, with which at other times they are in continual enmity, do not now molest them; and, on these occasions, it has been remarked that the Hyænas are seldom known to do any important mischief. Thunberg informs us, that they are so excessively bold and ravenous, as sometimes even to eat the saddle from under the traveller's head, and to gnaw the shoes on his feet, while he is sleeping in the open air.

They utter the most horrid yells in the night, while prowling about for prey. During the day-time, they remain concealed in holes in the ground, or in clefts of rocks; and in the night they frequently descend upon the sheep-folds, in which, if these be not well defended by dogs, they commit terrible ravages. Some of the inhabitants of the Cape pretend that the Hyæna has the power of imitating the cries of other animals, and that, by this means, it often succeeds in decoying lambs, calves, and sheep from the folds. They even assert, that a party of Hyænas half flying and half defending themselves, will sometimes decoy the whole of the dogs from a farm to follow them to a distance; while their companions have an opportunity of issuing from their retreats, and carrying off sufficient booty before the dogs can return to prevent them.

Every kind of animal substance is prize to them; and the gluttony and filthy habits of these beasts, seem a kind interference of Providence, urging them to consume those dead and corrupt bodies, which in hot climates

might, otherwise, seriously affect the health and comforts of the people.

Dr. Sparrman relates a story of the Spotted Hyæna, for the truth of which he does not altogether vouch; but which is so diverting, that I shall make no apology for introducing it. One night, after a feast near the Cape of Good Hope, an intoxicated trumpeter was carried out of doors to cool and sober him. The scent of this man soon attracted a Tiger-wolf to the spot. The animal threw him on his back, and carried him off towards Talbot Mountain, thinking him a corpse, and consequently a fair prize. In the mean time, however, the drunken musician awaked; and sufficiently sensible to know the danger of his situation, he sounded an alarm with the trumpet, which he carried fastened to his side. The beast, as may easily be imagined, was in his turn not less frightened, and immediately ran away. Another writer observes, that any person but a trumpeter, would, in such a situation, have doubtless furnished the animal with a supper.

The strength of the jaws of the Spotted Hyæna is so great, that it is enabled to break in pieces, without difficulty, even the hardest bones. In confinement this animal is usually fed with such bones as are the refuse of other animals; and these are all perfectly digested in his stomach.

The following is a remarkable instance of the enormous powers of these animals. The den of a Spotted Hyæna in the Tower wanted some repairs. These the carpenter completed by nailing on the floor a thick oak plank, seven or eight feet in length, with at least a dozen nails, each longer than the middle finger of the hand. At one end of this plank there was, however, a small piece left that stood up higher than the rest; and the man, not having a proper chisel with him to cut it off, returned to his shop for one. During his absence some persons came in to see the animals, and the Hyæna was let down by the keeper from the other part of his den. He had scarcely been in the place an in-

stant, before he espied the piece that was left at the end of the plank, and, seizing it in his teeth, he tore the plank completely up, drawing every nail.

This very animal was, however, much more gentle than most of the individuals of the former species. The keeper could venture to pat and caress him, and even to enter his cage at all times, except when he was feeding. This *Hyæna* did not pay the same respect to *animals* that came in his way. A soldier who some time before had visited the Menagerie, brought along with him a terrier dog. The man absurdly held him up to the den of the *Hyæna*; and on seeing the animal, the dog was irritated, barked at him, and in his rage thrust his head between the bars. The furious beast sprang upon him, dragged him into the den, and almost in an instant devoured him.

THE JACKAL*.

In their general habits and economy these animals are much allied to the dog. When caught young they soon become domestic, attach themselves to mankind, wag their tails when pleased, and distinguish their masters from other persons. They love to be fondled and patted with the hand, and when called by name will leap on a table or chair. They readily eat from the hand, drink as dogs do, by lapping; and are fond of playing with dogs. Although carnivorous in a wild state, they will eagerly eat bread.

In the forests of their native countries, the hot and

* **DESCRIPTION.** The body of the Jackal has a great resemblance to that of the Fox; the head, however, is shorter, the nose blunter, and the legs longer. The tail is thickest in the middle, tapers to a point, and is tipped with black. The hair, which is long and coarse, is of a tawny colour, and yellowish on the belly. The length of the body is about thirty inches, and of the tail eleven.

SYNONYMS. *Canis aureus.* Linn.—Schakal. Penn.—Chagal, in Persia.—Adil. Belon.—Shaw's Gen. Zool. Pl. 79.—Bew. Quad. p. 320.

temperate parts of Asia and Africa, these animals associate in packs of from fifty to two hundred; and, like hounds, hunt, during the night, in full cry. They devour poultry and lambs, ravage the streets of villages and the gardens near towns, and are said even to destroy children that are left unprotected. They are so bold and courageous that they will sometimes enter the tent of a traveller while he is asleep, and steal away any thing that is eatable. If animal prey be not to be found, they will feed on roots and fruit. In this case, the most infected carrion comes not amiss to them. They greedily disinter the dead, and devour the most putrid bodies; on which account the graves, in many countries, are made of great depth. They also attend caravans, and follow armies, to feast on the remains of the dead.

In the night their howlings (for their voice is naturally a howl) are dreadful; and when not far distant, these are so horribly loud, that persons can with difficulty hear each other speak. Dillon says, that their voice resembles the cries of many children of different ages mixed together: when one commences, the whole pack immediately afterwards join in concert. During the day-time they are silent. All the animals of the forest are roused by the cries of the Jackal; and the Lion and other beasts of prey, by a kind of instinct, attend to these cries as a signal for the chase, and seize such timid animals as fly from the noise. From this circumstance it is that the Jackal has obtained the appellation of the Lion's Provider. Jackals burrow in the earth; and leave their habitations during the night only, to range for prey. The females breed once a-year, and produce from six to eight young-ones at a birth.

Such, nearly, is the account given to us by Mr. Pennant: that of M. de Buffon is very different. He says, that these are stupid and voracious animals, and extremely difficult to be tamed; and that with one, which he kept for nearly a year, neither caresses nor food would soften its disposition. It would not allow any

one to touch it, and attempted to bite all persons indiscriminately. When suffered to be at liberty, nothing could prevent it from leaping on the tables, and carrying off every eatable it could lay hold of. This writer also inform us, that whenever the Jackal, in a wild state, meets with travellers, it stops to reconnoitre them, without any symptoms of fear; and that, in its excessive voracity, if nothing better lies in its way, it will even eat the leather of harness, or boots and shoes.

Whenever any of these creatures begin to utter their cry, all the rest do the same; so that when one of them has entered into a house to steal, and hears his companions at a distance, he cannot refrain from adding his voice to the number, and is thus sometimes detected.

THE BARBARY JACKAL, OR THALEB*.

These are, in every respect, the most adroit and active animals imaginable. They do not, like the Common Jackal, associate in packs, but always live singly. They will venture to approach, even in the open day, the houses near which they have their subterraneous abode; and, carefully concealed beneath the shelter of thick bushes, will frequently creep, without noise, to the out-houses, surprise the poultry, carry off their eggs, and leave no traces of their exploits, but the devastations themselves.

The cunning of these animals is pleasingly depicted in the following narration of M. Sonnini: "One day, as I was meditating in a garden in Egypt, I stopped near a hedge. A Thaleb, hearing no noise, was coming

* DESCRIPTION. The Barbary Jackal is about the size of the common Fox, and is of a brownish fawn-colour. From behind each ear runs a black line, which divides into two, extending downward along the neck. The tail is bushy, and surrounded by three dusky rings.

This species is found principally in Egypt.

SYNONYMS. *Canis Barbarus*. *Shaw*.—Barbary Schakal. *Pennant*.—Thaleb. *Sonnini*.—Barbary Jackal. *Shaw*.

through the hedge towards me; and, when he had cleared himself, was just at my feet. On perceiving me, he was seized with such surprise, that he remained motionless for some seconds, without even attempting to escape, his eyes fixed steadily on me. Perplexity was painted in his countenance, with a degree of expression of which I could not have supposed him susceptible, and which denoted great delicacy of instinct. On my part, I was afraid to move, lest I should put an end to this situation, which afforded me much pleasure. At length, after he had taken a few steps, first towards one side and then the other, as if so confused as not to know which way to get off, and keeping his eyes still turned towards me, he retired; not running, but stretching himself out, or rather creeping with a slow step, setting down his feet one after another with singular precaution. He seemed so fearful of making a noise in his flight, that he held up his large tail, almost in an horizontal line, that it might neither drag on the ground nor brush against the plants. On the other side of the hedge I found the fragments of his meal: it had consisted of a bird of prey, great part of which he had devoured."

The Barbary Jackal is one of the prettiest of quadrupeds; and perhaps would be one of the most amiable, if his tricks, and his talents for depredation, did not bear, greatly too much, the marks of knavery.

THE FOX*.

The Fox is a native of almost every quarter of the globe; and is of so wild and savage a nature, that it is impossible fully to tame him. He is esteemed the most sagacious and crafty of all beasts of prey. The former quality he shows in his mode of providing for

* SYNONYMS. *Canis Vulpes*. *Linnaeus*.—*Le Renard*. *Buffon*.—*Bingley's Mem. of Brit. Quad. Pl.* 10.—*Bew. Quad. p.* 307, 308, 311.

himself an asylum, where he retires from pressing dangers, dwells, and brings up his young; and his craftiness is discovered by his schemes to catch lambs, geese, hens, and all kinds of small birds.

When it is possible for him conveniently to do so, the Fox forms his burrow near the border of a wood, in the neighbourhood of some farm or village. He there listens to the crowing of the cocks, and the cries of the poultry. He scents them at a distance; he chooses his time with judgment; he conceals his road, as well as his design; he slips forward with caution, sometimes even trailing his body; and seldom makes a fruitless expedition. If he can leap the wall, or creep in underneath, he ravages the court-yard, puts all to death, and retires softly with his prey; which he either hides under the adjacent herbage, or carries off to his kennel. He returns in a few minutes for more; which he carries off or conceals in the same manner, but in a different place. In this way he proceeds till the progress of the sun, or some movements perceived in the house, warn him that it is time to suspend his operations, and to retire to his den. He plays the same part with the catchers of thrushes, woodcocks, and other birds. He visits their nets and birdlime early in the morning, and carries off successively the birds which are entangled, concealing them in different places, especially by the sides of highways, in the furrows, and under the herbage of brush-wood, where they are sometimes left two or three days, but where he has no difficulty in finding them when he is in need. He hunts the young hares in the plains; seizes old ones in their seats; digs out rabbits in the warrens; discovers the nests of partridges and quails, and seizes the mothers on their eggs; and destroys a vast quantity of game. The Fox is an exceedingly voracious animal; and, when other food fails him, he makes war against rats, field-mice, serpents, lizards, toads, and moles. Of these he destroys great numbers; and this is the only service that he appears to do to mankind. When urged by hunger, he

will also eat roots or insects; and the Foxes near the sea-coast will devour crabs, shrimps, or shell-fish. In France and Italy, these animals do incredible mischief by feeding on grapes, of which they are excessively fond.

We are told by M. de Buffon, that the Fox is so fond of honey, that he sometimes attacks bee-hives, and the nests of wasps, for the sake of what he can there find to eat; and that he frequently meets with so harsh a reception, as to oblige him to retire, in order that he may roll on the ground and crush those that are stinging him: but, having thus freed himself from his troublesome companions, he instantly returns to the charge, and at length obliges them to forsake their comb, and leave these to him as the reward of his victory. When urged by excessive hunger, he will even devour carrion. M. de Buffon one evening suspended on a tree, at the height of nine feet, some meat, bread, and bones. The Foxes had severe exercise during the night; for next morning the earth all around was beaten, by their jumping, as smooth as a barn-floor.

The Fox exhibits much cunning in digging young rabbits out of their burrows. He does not enter the holes; for in this case, he would have to dig several feet through the ground, under the surface of the earth: but he follows the scent of them above, till he comes to the end, where they lie; and then scratching up the earth, he descends immediately upon and devours them.

This animal prepares for himself a convenient den, in which he lies concealed during the greatest part of the day. This is so contrived as to afford the best possible security to its inhabitant; being situated under hard ground, the roots of trees, or in the crevices of rocks, and being also furnished with proper outlets, through which he may escape in case of necessity.

The Fox, in this country, is an object of diversion in the chase. When he finds himself pursued, he generally makes towards his hole; and, penetrating to the

bottom, lies there till a terrier is sent in to him. If his den be among rocks or under the roots of trees, he is safe; for the terrier is no match for him there, and he cannot be dug out by his enemies. When the retreat to his kennel is cut off, his stratagems and shifts to escape are as surprising as they are various. He retreats to the woody parts of the country, and prefers the paths that are most embarrassed with thorns and briers. He runs in a direct line before the hounds, and at no great distance from them; and, if hard-pushed, seeks the low, wet grounds, as though conscious that the scent does not lie so well there as in other places. When overtaken he becomes obstinately desperate, and bravely defends himself against the teeth of his adversaries, even to the last gasp.

Dr. Goldsmith relates a remarkable instance of parental affection in this animal. A female Fox that had, as it should seem, but one cub, was unkennelled by a gentleman's hounds near Chelmsford, and hotly pursued. The poor animal, braving every danger rather than leave her cub behind to be worried by the dogs, took it up in her mouth, and ran with it in this manner for several miles. At last, taking her way through a farmer's yard, she was assaulted by a mastiff; and was at length obliged to drop her cub, which was taken up by the farmer. And we are happy to add, that the affectionate creature escaped the pursuit, and got off in safety. A female Fox was hunted near St. Ives, during three quarters of an hour, and with a cub, about a fortnight old, all the time in her mouth; but this she was at length obliged to leave to the ferocity of her pursuers.

Of all animals, the Fox has the most bright and significant eye. He is remarkably playful; but, like all savage creatures half reclaimed, will bite, on the least offence, even those with whom he is most familiar. He languishes when deprived of liberty; and, if kept too long in a domestic state, generally at last dies of melancholy.

The females seldom produce young-ones more than once in the year; and the usual number is from three to six. If the mother perceive that the place of her retreat is discovered, she carries off her cubs, one by one, to a more secure habitation. The young-ones are brought forth blind, like puppies, and are of a darkish brown colour. Foxes grow till they are eighteen months old, and live thirteen or fourteen years. During winter, these animals make an almost continual yelping; but in summer, when they shed their hair, they are for the most part silent.

THE ARCTIC FOX *.

Steller, the Russian traveller, has given us an ample and most entertaining account of the habits of life and manners of the Arctic Fox. This account appears, indeed, to be much exaggerated; but we know not how to contradict a professed statement of facts, to which a respectable writer informs us that he was an eye-witness.

"During my unfortunate abode (says he) on Behring's Island, I had but too many opportunities of studying the nature of these animals, which far exceed the Common Fox in impudence, cunning, and roguery. They forced themselves into our habitations by night as well as by day, stealing all that they could carry off; even things that were of no use to them, such as knives, sticks, and clothes. They were so ingenious as to roll down our casks of provisions, and then to steal the meat out with such skill, that, at first, we could not bring

* DESCRIPTION. The Arctic Fox is smaller than the Common Fox, and of a bluish-gray colour, which sometimes changes to white. The hair is very thick, long, and soft. The nose is sharp, and the ears short, and almost hid in the fur. The tail is shorter, but more bushy, than that of the Common Fox.

SYNONYMS. *Canis lagopus*. *Linnaeus*.—*Isatis*. *Buffon*.—*Bew. Quad. p. 311.*

ourselves to ascribe the theft to them. While employed in stripping an animal of its skin, it has often happened that we could not avoid stabbing two or three Foxes, from their rapacity in tearing the flesh out of our hands. If we buried this flesh ever so carefully, and even added stones to the weight of earth that was upon it, they not only found it out, but with their shoulders pushed away the stones. If, in order to secure it, we put any animal on the top of a high post in the air, they either dug up the earth at the bottom of the post, and thus tumbled the whole down, or one of them climbed up, and with incredible artifice and dexterity threw down what was upon it.

"They watched all our motions, and accompanied us in whatever we were about to do. If the sea threw up an animal of any kind, they devoured it before we could arrive to rescue it from them: and if they could not consume the whole of it at once, they trailed it off in portions to the mountains, where they buried it under stones before our eyes, running to and fro as long as any thing remained to be conveyed away. While this was doing, others stood on guard, and watched us. If they saw any one coming at a distance, the whole troop would combine at once, and begin digging all together in the sand, till even a beaver or sea-bear in their possession would be so completely buried under the surface, that not a trace of it could be seen. In the nighttime, when we slept in the field, they came and pulled off our night-caps, and stole our gloves from under our heads, with the beaver-coverings, and the skins that we lay upon. In consequence of this, we always slept with our clubs in our hands, that if they awoke us we might drive them away or knock them down.

"Whenever we made a halt to rest, they gathered around us; and played a thousand tricks in our view; and when we sat still, they approached us so near that they gnawed the thongs of our shoes. If we lay down as if intending to sleep, they came and smelt at our noses, to find whether we were dead or alive. On our

first arrival, they bit off the noses, fingers, and toes of our dead, while we were preparing the grave; and they thronged in such a manner about the infirm and sick, that it was with difficulty we could keep them off.

"Every morning we saw these audacious animals patrolling about among the leonine seals and sea-bears, that were lying on the strand; smelling at such as were asleep, to discover whether some one of them might not be dead: if that happened to be the case, they proceeded to dissect him immediately; and soon afterwards were all at work in dragging the parts away. Because the seals sometimes in their sleep overlaid their young-ones, the Foxes every morning examined the whole herd, one by one, as if conscious of this circumstance, and immediately dragged away the dead cubs from their dams.

"As they would not suffer us to be at rest either by night or day, we became so exasperated against them, that we killed them, young and old, and harassed them by every means we could devise. When we awoke in the morning, there always lay two or three that had been knocked on the head in the preceding night; and I can safely affirm, that, during my stay upon the island, I killed above two hundred of these animals with my own hands. On the third day after my arrival, I knocked down with a club, and within the space of three hours, upwards of seventy of them, and made a covering to my hut with their skins. They were so ravenous, that with one hand we could hold to them a piece of flesh, and with a stick or axe in the other could knock them down.

"Like the Common Foxes, these animals were the most sleek and full of hair in the months of October and November. In January and February their hair was extremely thick. In April and May they began to shed their coat; in the two following months they had only wool upon them, and appeared as if they went in waistcoats. In June they produced their cubs, nine or

ten at a brood, in holes and clefts of the rocks. They were so fond of their offspring, that, to scare us away from them, they barked and yelled like dogs; by which they betrayed their covert: but no sooner did they perceive that their retreat was discovered, than (unless they were prevented) they dragged the young-ones away in their mouths, and endeavoured to conceal them in some more secret place.

"In heavy falls of snow, these animals buried themselves in that substance, and there lay as long as it continued of a sufficient depth. They were able to swim across the rivers with great agility. Though at this time they were found in immense numbers on Behring's Island, they had probably been conveyed thither on the drift-ice from the continent; and, having been afterwards nourished by the great quantity of animal substances thrown ashore by the sea, they had become thus enormously multiplied."

We are informed by Mr. Crantz, that the Arctic Foxes exert a very extraordinary degree of cunning in their mode of feeding on fish. They go into the water, and make a splash with their feet, in order to disturb the fish; and, when these come up, they immediately seize them. Charlevoix, apparently alluding to this species, says that they exert an almost incredible degree of cunning in entrapping the different kinds of water-fowl. They advance a little way into the water; and afterwards retire, playing a thousand antics on the banks. The fowl approach; and on their coming near, the Fox ceases, that he may not alarm them, only moving about his tail very gently: the birds are said to be so foolish as to come up and peck at this, when he immediately springs round upon them, and seldom misses his aim.

These animals, which are natives only of the Arctic regions near the Polar Circle, and of the islands in the Frozen and Eastern Ocean, are eagerly pursued for the sake of their skins; the fur of which is light and warm, but not durable. They have at times appeared

in such vast numbers in the neighbourhood of Hudson's Bay, that four hundred of them have been killed or taken in different ways, between the months of December and March. The Greenlanders sometimes eat the flesh of the Arctic Fox, which they prefer to that of the hare. They also make buttons of the skins; and, splitting the tendons, use them instead of thread.

OF THE CAT TRIBE IN GENERAL*.

This tribe of animals is ferocious, and tolerably swift of foot. They hunt for their prey chiefly in the night, and seize it by surprise; lying in wait till it comes within their reach, and then springing suddenly forward upon it at one leap. While their prey is in sight, they frequently move their tail from side to side, keeping at the same time their eyes steadily fixed on the object. They never adopt vegetable food, except from necessity. Most of them are very agile in climbing trees; and have the remarkable property of alighting on their feet whenever they are thrown or fall from a height, by which means the danger usually attendant on such accidents is often prevented. The females produce a considerable number of young-ones at a birth.

THE LION†.

The form of the Lion is strikingly bold and ma-



* All the animals belonging to this tribe have six fore-teeth, the intermediate ones of which are equal. They have also three grinders on each side in both jaws. The tongue is furnished with rough, sharp prickles, that point backwards; and the claws are retractile, or capable of being drawn back so as not to touch the ground: a necessary provision to keep them from being dulled while walking; for, being their principal weapons, as well of offence as defence, they are both hooked and sharp.

† See Plate iv. Fig. 1.

DESCRIPTION. The length of this animal is from six to

jestic. His large head, and shaggy pendent mane, his strength of limb, and formidable countenance, exhibit a picture of terrific grandeur which no words can describe.

His strength is so prodigious, that a single stroke of his paw is sufficient to break the back of a horse; and one sweep with his tail will throw a strong man to the ground. Kolben says, that, when he comes up to his prey, he always knocks it down dead, and seldom bites it till the mortal blow has been given: this blow he generally accompanies with a tremendous roar.

A Lion at the Cape of Good Hope was once seen to take a heifer in his mouth; and though that animal's legs dragged on the ground, yet he seemed to carry her off with as much ease as a cat does a rat; he likewise without difficulty leaped over a broad ditch with her. Two yeomen of the Cape of Good Hope being on a hunting party with several Hottentots, near *Bosheismans-river*, they perceived a Lion dragging a buffalo from the plain to a wood upon a neighbouring hill. They, however, soon forced him to quit his prey, in

eight feet; and his tail, which is terminated by a tuft of hair, is alone about four feet long. The general colour of his body is a pale tawny, inclining to white beneath. The claws are retractile; not into sheaths, but into the intervals between the toes, by means of a particular articulation of the last joint. The last bone but one, by bending itself outward, gives place to the last, which is only articulated to it; and to which the claw is fastened so as to bend itself upward and sideways, more easily than downward. So that the bone which is at the end of every toe being almost continually bent upward, the point which rests upon the ground is not the extremity of the toe, but the node of the articulation of the last two bones; and thus, in walking, the claws remain elevated and retracted between the toes. This admirable structure is not found in the great toe, whose last joint bends only downward, because this toe does not naturally rest upon the ground, being considerably smaller than the others.

The Lion is a native both of Africa and Asia.

SYNONYMS. *Felis Leo*. *Linnaeus*.—*Le Lion*. *Buffon*.—*Shaw's Gen. Zool. Pl. 81, 82*.—*Bew. Quad. p. 109*.

order to make a prize of it themselves; and found that he had had the sagacity to take out the buffalo's large and unwieldy entrails, in order to be able the more easily to escape with the fleshy part of the carcass. And as soon as he saw, from the skirts of the wood, that the Hottentots had begun to carry off the flesh to the waggon, he frequently peeped out upon them, and probably with no little mortification.

The Lion, unless provoked or extremely hungry, does not attack any animal openly; but, when roused by famine, he is said to fear no danger, and to be repelled by no resistance. The method in which he takes his prey, is, almost always, to spring or throw himself upon it, with one vast bound, from the place of his concealment: yet, if he chance to miss his leap, he will not (as the Hottentots invariably assured Dr. Sparrman) follow his prey any further; but, as though he were ashamed, turning round towards the place where he lay in ambush, he slowly, and step by step, measures the exact length between the two points, as if to find how much too short, or how much beyond the mark, he had taken his leap. From all the most credible accounts that Dr. Sparrman could collect concerning the Lion, as well as from what he himself saw, he concludes that this beast is a great coward; or, at least, is deficient in courage proportionate to his strength: on the other hand, however, he sometimes shows an unusual degree of intrepidity, of which the following is an instance.

A Lion had broken into a walled enclosure for cattle, and had done considerable damage. The people belonging to the farm were well assured that he would come again by the same way. In consequence of this, they stretched a rope directly across the entrance, to which several loaded guns were fastened in such a manner, that they must necessarily discharge themselves into the Lion's body as soon as he should push against the cord with his breast. But the Lion, which came before it was dark, having probably some suspicions respecting

the cord, struck it away with his foot; and, without betraying the least alarm in consequence of the reports made by the loaded pieces, went fearlessly on, and devoured the prey he had left untouched before.

Though the Lion generally springs upon his prey from some lurking-place, yet there have been instances where he has deviated from this mode of attack. Dr. Sparrman has mentioned an instance. A Hottentot, perceiving that he was followed by a Lion, and concluding that the animal only waited the approach of night to make him his prey, began to consider what was the best mode of providing for his safety; and at length he adopted the following. Observing a piece of broken ground with a precipitate descent on one side, he sat down by the edge of it; and found, to his great joy, that the Lion also made a halt, and kept at a distance behind him. As soon as it grew dark, the man, sliding gently forward, let himself down a little below the edge of the steep; and held up his cloak and hat on his stick, at the same time gently moving them backward and forward. The Lion, after a while, came creeping towards the object; and, mistaking the cloak for the man himself, made a spring at it, and fell headlong down the precipice.

One of the Namaqua Hottentots, endeavouring to drive his master's cattle into a pool of water, enclosed between two ridges of rock, espied a huge Lion couching in the midst of the pool. Terrified at the unexpected sight of such a beast, which seemed to have its eyes fixed upon him, he instantly took to his heels. In doing this, he had presence of mind enough to run through the herd; concluding that, if the Lion should pursue, he would seize upon the first beast that presented itself. In this, however, he was mistaken. The Lion broke through the herd, in pursuit of the Hottentot; who, on turning round, and perceiving that the monster had singled him out, breathless and half dead with fear, scrambled up one of the tree-aloes, in the trunk of which had luckily been cut a few steps, the

more readily to come at some birds'-nests that the branches contained. At the same moment the Lion made a spring at him; but, missing his aim, the animal fell upon the ground. In surly silence he walked round the tree, casting at times a dreadful look towards the poor Hottentot, who had crept behind the nests. It is here requisite to observe, that these nests belong to a small bird called the Sociable Grosbeak, that lives in a state of society with the rest of its species, constructing a whole republic of nests in one clump, and under one cover. One of these collections of nests sometimes extends through a space ten feet in diameter, and contains a population of several hundred individuals. It was under the cover of one of these structures that the Hottentot screened himself from the view of the Lion. Having remained silent and motionless for a great length of time, he ventured to peep over the side of the nest, hoping that the Lion had departed; when, to his astonishment and terror, his eyes met those of the animal, which, as the man afterwards expressed himself, " flashed fire at him." In short, the Lion laid himself down at the foot of the tree, and did not move from the place for four-and-twenty hours. At the end of this time, becoming parched with thirst, the beast went to a spring at some distance, in order to drink. The Hottentot now, with trepidation, ventured to descend; and ran off to his home, which was not more than a mile distant, as fast as his feet could carry him, and he arrived there in safety. The perseverance of the Lion was such, that, it appeared afterwards, he returned to the tree, and, finding the man had descended, hunted him by the scent to within three hundred paces of his dwelling.

If we did not know somewhat of the natural disposition of this stately animal, we should feel a great degree of terror in seeing the keepers of wild beasts play with him, pull out his tongue, and even chastise him, as they sometimes do. He seems to bear all with good-nature; and we very rarely have instances of his revenging these





1. Lion. 2. Tiger. 3. Panther. 4. Lynx.

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unprovoked and wanton insults. The Lion is frequently bred up with domestic animals, and is seen to play innocently and familiarly among them; and if it ever happen that his natural ferocity returns, it is seldom exerted against his benefactors. The following anecdotes afford very sufficient proofs of the gratitude and affection of this animal.

In the reign of king James the First, Mr. Henry Archer, a watchmaker in Morocco, had two whelps given him, which had been stolen not long before from a Lioness near Mount Atlas. They were a male and female; and, till the death of the latter, were kept together in the emperor's garden. He afterwards had the male constantly in his bed-room, till it grew as tall as a large mastiff-dog; and the animal was perfectly tame and gentle in its manners. Being about to return to England, he reluctantly gave it to a Marseilles merchant, who presented it to the French king, from whom it came as a present to our king, and was kept in the Tower. A person of the name of Bull, who had been a servant to Mr. Archer, went by chance with some friends to see the animals there. The beast recognised him in a moment; and, by his whining voice and motions, expressive of anxiety for him to come near, fully exhibited the strongest symptoms of joy at meeting with a former friend. Bull, equally rejoiced, ordered the keeper to open the grate, and he went in. The Lion fawned upon him like a dog, licking his feet, hands, and face; and skipping and tumbling about, to the astonishment of all the spectators. When the man left the place, the animal bellowed aloud, and shook his cage in an ecstasy of sorrow and rage; and for four days afterwards refused to take any nourishment.

About the year 1650, when the plague raged at Naples, Sir George Davis, the English Consul there, retired to Florence. One day, from curiosity, he went to visit the Grand-duke's dens. At the further end of the place, in one of the dens, lay a Lion, which the keep-

ers, during three whole years, had not been able to tame, though all the art and gentleness imaginable had been used. Sir George no sooner appeared at the gate of the den, than the Lion ran to him with all the indications of transport that he was capable of expressing. He reared himself up and licked his hand, which this gentleman put in through the iron grate. The keeper, affrighted, pulled him away by the arm, entreating him not to hazard his life by venturing so near the fiercest creature of his kind that had ever entered those dens. Nothing, however, would satisfy Sir George; but in spite of all the keeper said to him, he would go into the den. The instant he entered, the Lion threw his paws upon his shoulders, licked his face, and ran about the place, fawning, and as full of joy as a dog would have been at the sight of his master.

An account of this interview between the Lion and the stranger was soon afterwards communicated to the Grand-duke. He sent for Sir George, and received from him the following account of what had seemed so strange: "The captain of a ship from Barbary gave me this Lion, when quite a whelp. I brought him up tame; but when I thought him too large to run about the house, I built a den for him in my court-yard: from that time he was never permitted to be loose, except when brought into the house to be exhibited to my friends. When he was five years old, he did some mischief, by pawing and playing with people in his frolicsome moods: having one day gripped a man a little too hard, I ordered him to be shot, for fear of myself incurring the guilt of what might happen: on this, a friend, who happened to be then at dinner with me, begged him as a present. How he came here I know not." The Duke informed Sir George that the Lion had been given to him by the very person on whom Sir George had bestowed him.

An instance of recollection and attachment occurred not many years since, in a Lion belonging to the

Duchess of Hamilton. It is thus related by Mr. Hope: "One day I had the honour of dining with the Duchess of Hamilton. After dinner, the company attended her grace to see a Lion fed that she had in the court. While we were admiring the fierceness of the animal, and teasing him with sticks to make him abandon his prey and fly at us, the porter came and informed the duchess that a serjeant with some recruits at the gate, begged to see the Lion. Her grace, with great condescension and good-nature, asked permission of the company to admit the travellers. They were admitted at the moment the Lion was growling over his prey. The serjeant, advancing to the cage, called, 'Nero, Nero, poor Nero, don't you know me?' The animal instantly turned his head to look at him; then rose up, left his prey, and came, wagging his tail, to the side of the cage. The man put his hand upon him, and patted him: telling us, at the same time, that it was three years since they had seen each other; and that the care of the Lion on his passage from Gibraltar had been committed to him, and he was happy to see the poor beast show so much gratitude for his attentions. The Lion, indeed, seemed perfectly pleased: he went to and fro, rubbing himself against the place where his benefactor stood, and licking the serjeant's hand as he held it out to him. The man wanted to go into the cage to him; but was prevented by the company, who were not altogether convinced that it would be safe for him to do so."

M. Felix, the keeper of the animals in Paris, some years ago brought two Lions, a male and female, to the national menagerie. About the beginning of the following June, he was taken ill, and could no longer attend the Lions; and another person was under the necessity of performing this duty. The male, sad and solitary, remained from that moment constantly seated at the end of his cage, and refused to take food from the stranger, whose presence was hateful to him, and whom he often menaced by bellowing. The company

even of the female seemed now to displease him; and he paid no attention to her. The uneasiness of the animal afforded a belief that he was really ill; but no one dared to approach him. At length Felix recovered; and, with intention to surprise the Lion, he crawled softly to the cage, and showed only his face between the bars: the Lion, in a moment, made a bound, leaped against the bars, patted him with his paws, licked his hands and face, and trembled with pleasure. The female also ran to him; but the Lion drove her back, and seemed angry; and, fearful that she should snatch any favours from Felix, a quarrel was about to take place; but Felix entered the cage to pacify them. He caressed them by turns; and was afterwards frequently seen betwixt them. He had so great a command over these animals, that whenever he wished them to separate and retire to their cages, he had only to give the order; when he had a desire that they should lie down, and show strangers their paws or throats, on the least sign they would throw themselves on their backs, hold up their paws one after another, open their throats, and, as a recompense, obtain the favour of licking his hand.

A Lion and Lioness which had been brought over together from Africa, about twenty years ago, were kept in the same den at Exeter 'Change in London. They were each about eighteen months old, and were attended by a Negro who had reared them from whelps, and had come over along with them. They permitted this man to enter their den, and would fawn upon and play round him, like kittens. He frequently had a table in their den, with pipes and glasses; and, sitting down there, would quietly smoke his pipe. If, on these occasions, their frolics were too boisterous, he had only to stamp his foot, and by his countenance to express his displeasure, and they would immediately cease, and quietly lie down by his side. But it was not at all times that even this man would venture himself with them. If they were irritated by the spectators, as,

through mere wantonness, they sometimes were, he always refused to enter their den; and it is not recollected that he ever did this whilst they were feeding. When the man left Exeter 'Change, the female pined away, and soon afterwards died.

We are assured, from numberless authorities, that the anger of this animal is noble, that his courage is magnanimous, and his disposition grateful. He has been often seen to despise contemptible enemies, and pardon their insults when it was in his power to have punished them. He has been known to spare the lives of such creatures as were thrown to be devoured by him, to live peaceably with them, to afford them part of his sustenance, and sometimes even to want food himself rather than deprive them of that life which his generosity had spared. Some years ago, a dog was put into the cage of a Lion in the menagerie at the Tower, for his food. The stately animal, however, spared its life; and they lived together for a considerable time in the same den, in the most perfect harmony, and appeared to have a great affection for each other. The dog had sometimes the impudence to growl at the Lion, and even to dispute with him the food which was thrown to them. The noble animal, however, was never known to chastise the impertinent conduct of his little companion; but usually suffered it to eat quietly till it was satisfied, before he began his own repast.

A Lioness, some years ago, in the Museum of the Jardin des Plantes at Paris, permitted a dog to live in her den, and was excessively fond of it. She seemed both pleased and gratified by its caresses, was attentive to all its wants, and was unhappy whenever it was removed from her sight.

A Lion, about three months old, was, in 1787, caught in one of the forests of Senegal; and Pelletau, the director of the African company in that colony, undertook to superintend the animal's education. The mildness of his physiognomy, and the unusual gentleness of his disposition, rendered this Lion a great fa-

vourite with all persons who saw him. Sensible of the good treatment that he received, he seemed, on all occasions, highly delighted with the caresses and attentions of his friends, and was, in most respects, as tractable as any domestic animal could be. Such was his love of society, that he was always delighted to be in a room where many persons were assembled: and what was very extraordinary, he lived in perfect harmony, and was at all times on the best terms, with the other animals, of every species, that were kept in his master's house. He slept in the same place with sheep, dogs, cats, monkeys, geese, ducks, &c. When he was about eight months old, two whelps were littered by a terrier on his bed. This new family excited a most lively interest in the Lion; and if he had been the parent of the little animals, he could not have displayed to them an attachment more tender than that which was now remarked in him. One of the whelps died; his affection was redoubled towards the other; and this affection appeared to regulate all his movements. At the age of fourteen months, the Lion, with his little companion, was embarked for France. It was feared that the change of situation and habits would have had such influence as to render him in some degree ferocious. This, however, was not the case; for he could at all times be allowed, without danger, to range at liberty in the vessel. He was landed at Havre, and, attended by his faithful dog, was, with only a cord attached to his collar, conducted thence to Versailles. On the death of the dog, which took place some little time after their arrival at Versailles, he seemed to be very disconsolate and miserable; and it was thought necessary to supply the loss of his companion by putting into his den another animal of the same species. The second dog, terrified at the sight of so tremendous a beast, immediately endeavoured to conceal himself; and the Lion, surprised by the noise, struck the animal with one of his fore-paws, and killed it on the spot. He did not, however, at-

tempt to devour it. A third dog was put into his den, and lived with him for some years afterwards.

But although Lions have suffered dogs to live in the same den with them, no instances have occurred, at least in England, of their allowing so great a privilege to any other animals. A Lion, called Young Hector, not long ago in the Tower, had been some days ill, when (to try the experiment) a live rabbit was put into his den. It was suffered to remain there uninjured one whole night and the next day; and some hopes began to be entertained that it would be permitted to share the apartment with the noble animal in quiet. But on the morning following the second night, it was found dead. The Lion had not attempted to devour it, for the skin was not lacerated; but when this was stripped off, there were on each side of the body the evident marks of his teeth. In another instance, a cat had accidentally crept among the straw of his bed-place; but the moment he discovered her, he sprang upon and destroyed her.

In the Museum at Paris, one of the Lionesses littered three times. At the first litter she produced nine, at the second three, and at the third two young-ones. The parents, which were about equal in age, and probably were of the same litter, had been caught together, when somewhat more than a year old, in a trap, made in a wood, in the north of Africa. They lived happily together, were extremely gentle, and exhibited great affection towards each other. None of the young-ones had at first either a mane, or tuft at the end of their tail: and we are assured that these do not begin to appear till the animals are three years or three years and a half old. Their coat was somewhat woolly, and of a confused colour between gray and red. They had several little brown transverse strokes on the upper part of their back. As they increased in size, these by degrees disappeared; and with a more regular proportion of limbs, the hair assumed nearly the colour of that of the old animals. A Lion and Lioness now (1820) in

the Menagerie at Exeter 'Change, have had there three litters, one in May, 1818, another in May following, and the third in January, 1820.

The Lions in the French Museum begin to roar at day-break. They continue this noise for six or seven minutes; and recommence it after feeding, for about the same length of time. At other times they are seldom heard; except to announce some change of weather, or when their keeper has been long absent. In a state of nature, the Lion seldom leaves his den except during the night; but in the Museum the animals, being shaded from the too glaring light of the sun, are, on the contrary, always most active in the day.

The Lions in the Tower of London generally begin to roar in the evening, just before the night closes. They usually do this at the approach of rainy weather; and much more on Sunday than any other days, from their being then left almost entirely by themselves.

In the den adjoining to that in which the before-mentioned Lioness of the French Museum was placed, there was another female, which had been caught in the interior of Africa, at a much greater distance from the habitations of men than places from which any others in the Museum had been brought. According to the account of Felix Cassel, the principal keeper, who travelled into Africa to collect animals, she came from the borders of the Great Desert. She was ferocious in the extreme, and all the care and attention of the keepers have not hitherto in the least degree softened her natural disposition. This circumstance seems to confirm the opinion of Buffon and some other naturalists; who assert, that Lions possess greater strength and ferocity, according as they are removed from the haunts of man; and that the most formidable character is to be expected in those that frequent only the burning and sandy deserts of the interior of Asia and Africa.

Mr. Brown tells us, that while he was resident at Dar Für, in Africa, he purchased two Lions, one of which was only four months old. By degrees, he ren-

dered the latter animal so tame that it acquired most of the habits of a dog. It satiated itself twice a-week with the offal of the butchers, and then commonly slept for several hours successively. When food was given to these animals, they were not only furious to each other, but to any one who approached them: excepting, however, when they were fed, Mr. Brown never saw them disagree, nor exhibit any signs of ferocity towards mankind. The Sultan of Dah Fûr had also two tame Lions, which their attendant always brought into the market to be fed.

The roaring of the Lion when in quest of prey, resembles the sound of distant thunder; and, being re-echoed by the rocks and mountains, appals the whole race of animals, and puts them to a sudden flight; but he frequently varies his voice into a hideous scream or yell. The tradition that these animals are terrified at the crowing of a cock is not founded in fact.

The Lion is commonly said to devour as much at once as will serve him for two or three days; and, in confinement, he is usually allowed about four pounds weight of raw flesh for his daily subsistence. His teeth are so powerful, that he can break the bones of animals with perfect ease, and he often swallows them along with the flesh. His tongue is furnished with reversed prickles, so large and strong as to be capable of lacerating the skin. When he is enraged, or in want of food, he erects and shakes his mane, and beats his tail with considerable violence against his back and sides. In this state, the inhabitants of the Cape assert, that it is certain death to any person who happens unfortunately to approach him; but when his mane and tail are at rest, and the animal is in a placid humour, travellers may in general pass near him with safety.

The Lioness is smaller than the Lion, and destitute of a mane. She brings forth her young-ones in the most sequestered places, and produces four or five at a litter, which, at their first appearance, are about the size of a small pug-dog.

Kolben, who was some time at the Cape of Good Hope, and who seems, unaccountably, to have been more partial to the flesh of rapacious animals than that of most others, says that the Lion is frequently eaten at the Cape, and that the flavour is excellent, being much like that of venison.

THE TIGER*.

At the same time that he is the most beautiful, the Tiger is certainly one of the most ferocious of quadrupeds. Indeed, so sanguinary is his disposition, that there is no animal, however strong and powerful, that he will not venture to attack. Such furious combats have taken place between the lion and Tiger, that in some instances both animals have been known to perish, rather than give up the contest.

He commits the most lamentable ravages among flocks and herds, in the countries where he resides; and neither the sight nor the opposition of man has any power to make him desist. When undisturbed in seizing an animal, he plunges his head into its body, and drinks large draughts of blood, the sources of which are generally exhausted before his thirst is appeased.

The muscular strength of the Tiger is excessively great. We are assured, that a peasant in the East Indies had a buffalo fallen into a quagmire; and that while he went to call for assistance, an immense Tiger came and drew out the animal, on which the united efforts of several men had been of no avail. When the people returned, the first object they beheld was the Tiger, with the buffalo thrown over his shoulder: he

* See Plate iv. Fig. 2.

DESCRIPTION. The Tiger is about the same size as the Lion. His head and body are smooth, of a brownish or tawny yellow colour, with long transverse stripes.

He is a native of various parts both of Africa and Asia, but is principally found in India and the Indian islands.

SYNONYMS. *Felis tigris.* *Linnaeus*.—Le Tigre. *Buffon*.—Royal Tiger. *D'Obsonville*.—*Shaw's Gen. Zool.* Pl. 83.

was carrying it away, with the feet upward, towards his den. As soon, however, as he saw the men, he let fall his prey, and instantly fled to the woods; but he had previously killed the buffalo, and sucked its blood.

The method of the Tiger's seizing his prey is, by concealing himself from view, and springing upon it with a horrible roar. His cry, in the act of springing on the victim, is said to be hideous beyond expression; and we are told that, like the Lion, if he misses his object, he walks away without repeating the attempt. When he can securely attack mankind, he is said to prefer them to any other prey; but he seldom makes an open attack upon any creature that is capable of resistance.

In the beginning of the last century, a company, seated under the shade of some trees near the banks of a river in Bengal, were alarmed by the unexpected sight of a Tiger, preparing for its fatal spring; when a lady, with almost unexampled presence of mind, unfurled a large umbrella in the animal's face. The extraordinary and sudden appearance of this so confounded him, that he instantly retired, and thus gave the party an opportunity of escape.

The fatal accident which some years ago occurred in the East Indies, must still be fresh in the memory of all who have read the dreadful description that was given by an eye-witness of the scene. We went (says the narrator) on shore on Sangar Island, to shoot deer; of which we saw innumerable tracks, as well as of Tigers. We continued our diversion till nearly three o'clock; when, sitting down by the side of a jungle to refresh ourselves, a roar like thunder was heard, and an immense Tiger seized on one of the party, Mr. Monro, the son of Sir Hector Monro, bart. and rushed again into the jungle, dragging him through the thickest bushes and trees, every thing giving way to its monstrous strength; a Tigress accompanied his progress. The united agonies of horror, regret, and fear, rushed at once upon us. I fired at the Tiger; he seemed

agitated. My companion fired also; and in a few moments after this, our unfortunate friend came up to us, bathed in blood. Every medical assistance was vain; and he expired in the space of twenty-four hours, having received such deep wounds from the teeth and claws of the animal, as rendered his recovery hopeless. A large fire, consisting of ten or twelve whole trees, was blazing near us at the time this accident took place, and ten or more of the natives were with us. The human mind can scarcely form any idea of this scene of horror. We had but just pushed our boat from the shore, when the Tigress made her appearance, almost raging mad, and remained on the sand all the while we continued in sight."

Near the borders of Tartary, Tigers are very frequent; and in so populous an empire as China, it would seem impossible for them to have remained till the present day unextirpated. In the northern roads, hundreds of travellers are sometimes seen with lanterns carried before them, to secure them from the attack of these ravenous animals. In some parts of India, Tigers are particularly fatal to wood-cutters and labourers about the forests; and they have been known to swim to boats at anchor at a little distance from the shore, and snatch the men from on board. In Java they are so much dreaded, that when any person of consequence goes out into the country, he has with him men who blow incessantly a kind of small French-horns, the shrill sound of which frightens these creatures away. The hunting of Tigers is a favourite amusement with some of the Eastern princes; who go in search of them, attended by considerable bodies of men, well mounted, and armed with lances. As soon as the animals are roused, they are instantly attacked on all sides, with pikes, arrows, and sabres, and are presently destroyed. This diversion is, however, always attended with danger; for if the Tiger feels himself wounded, he seldom retreats without sacrificing one of the party to his vengeance. There are men who, covered with a coat of

mail, or even armed only with a shield, a poinard, and a short scymitar, will dare to attack these blood-thirsty animals singly, and fight with them, life for life; for, in combats of this nature, there is no other alternative than to vanquish or to fall.

The roar of the Tiger, which is chiefly heard during the night, is said to be exceedingly dreadful. It begins by intonations and inflections, deep, melancholy, and slow: presently it becomes more acute: then, the animal suddenly exerting himself, utters a violent cry, interrupted by long tremulous sounds, which make a distracting impression upon the mind.

The Tiger, if taken young, may, for a short time at least, till his ferocity comes with his age, be in some measure domesticated, and rendered mild and playful. A beautiful young Tiger, brought in the Pitt East India-man from China, in the year 1790, was so far domesticated as to admit of every kind of familiarity from the people on board the ship. It seemed to be quite harmless, and was as playful as a kitten. It frequently slept with the sailors in their hammocks; and would suffer two or three of them to repose their heads on its back, as upon a pillow, while it lay stretched out upon the deck. In return for this indulgence, it would, however, now and then steal their meat. Having one day stolen a piece of beef from the carpenter, he followed the animal, took the meat out of its mouth, and beat it severely for the theft: which punishment it suffered with all the patience of a dog. It would frequently run out on the bowsprit; climb about the ship like a cat; and perform many other tricks, with an agility that was truly astonishing. There was a dog on board, with which it would often play in the most diverting manner imaginable. This animal was taken on board the ship when it was only a month or six weeks old, and arrived in England before it had quite completed its first year. On its arrival it was presented to the king, and was afterwards deposited in the Tower of London. It even there continued to be perfectly good-natured, and was

in no instance known to be guilty of any savage or mischievous tricks.

In the year 1801, one day after this Tiger had been fed, his keeper put into the den to him a small, rough, black terrier puppy, a female. The beast suffered it to remain uninjured, and soon afterwards became so much attached to it, as to be restless and unhappy whenever the animal was taken away to be fed. On its return, the Tiger invariably expressed the greatest symptoms of delight, always welcoming its arrival by gently licking over every part of its body. In one or two instances, the terrier was left in the den, by mistake, during the time the Tiger had his food. The dog sometimes ventured to eat with him, but the Tiger generally appeared dissatisfied with this liberty. After a residence with the Tiger of several months, the terrier was removed to make way for a little female Dutch mastiff. It was, however, thought advisable, before the terrier was taken away, to shut up the mastiff for three or four days among the straw of the Tiger's bed, to take off, if possible, any smell that might be offensive to the animal. The exchange was made soon after the animals had been fed: the Tiger seemed perfectly satisfied with his new companion, and immediately began to lick it, as he had before done the Terrier. The dog seemed at first in considerable alarm with so formidable an inmate, but in the course of the day he became perfectly reconciled to his situation. This diminutive creature the Tiger would suffer to play with him, with the greatest good-nature. I have myself seen it bark at him, and bite him by the foot and mouth, without his expressing the least displeasure. When the dog, in its frolic, seized his foot, he merely lifted it up out of its mouth, and seemed otherwise heedless of its attacks.

Strange dogs were several times put into the Tiger's den after his feeding, and he in no instance attempted to injure them. Mr. Cross, the present keeper of Exeter 'Change, and who formerly had the care of the animals in the Tower, informed me that he could him-

self have ventured in safety into the den. The ship-carpenter, who came over with the Tiger, came to the Tower to see him. The animal, though they had been separated more than two years, instantly recognised a former acquaintance, rubbed himself backward and forward against the grating of his den, and appeared highly delighted. Notwithstanding the urgent request that he would not expose himself to so much danger, the man begged to be let into the den, and with so much entreaty, that he was at last suffered to enter. The emotions of the animal seemed roused in the most grateful manner. He rubbed himself against him, licked his hands, fawned upon him like a cat, and in no respect attempted to injure him. The man remained there two or three hours; and he at last began to fancy there would be some difficulty in getting out alone. Such was the affection of the animal towards his former friend, and so close did he keep to his person, as to render his escape by no means so easy as he had expected. With some care, however, he got the Tiger beyond the partition of the two dens, and the keeper, watching his opportunity, closed the slide, and separated them.

At Exeter 'Change, Mr. Cross succeeded in having a young Tiger and a lioness kept in the same cage. They were each so tame, that, although nearly eighteen months old, the keeper could without danger go into the cage, and play with them as he would have done with two dogs.

The Tigress, like the Lioness, produces four or five young-ones at a litter. In a wild state she is at all times furious; but her rage rises to the utmost extremity when robbed of her offspring. She then braves every danger, and pursues her plunderers with a degree of ferocity which is indescribable.

The skin of the Tiger is in great esteem in all the eastern countries; and particularly in China, where the mandarins cover their seats of justice with it. It is also

applied to many ornamental and useful purposes. The Indian physicians attribute medical virtues to various parts of the Tiger's body.

THE PANTHER*.

In nearly all its habits of life the Panther resembles the Tiger. Like that ferocious beast, he lurks in ambush amongst bushes or verdure, on the borders of the forests, and springs with a sudden and tremendous leap on such animals as pass by. So prompt, so rapid, and so well-timed are his movements, that few escape. In vain may the wretched victim seek for refuge even in the trees: the Panther, notwithstanding the size and the weight of his body, still pursues, with an agility which seems almost incredible, and there dispatches his victim.

The Panther has none of the noble qualities of the Lion. His thirst for blood is insatiable; and his ferocity is such, that even when subjugated and in the power of man, he seems rather to be subdued than tamed.

One of these animals which was seen by M. de Buffon, had, he says, a ferocious countenance, and a restless eye: his motions were precipitate, and his cry similar to that of an enraged dog, but more strong and harsh. This individual, like nearly all those that are brought into Europe, was a native of Barbary, and was taken in the forests adjacent to Mount Atlas.

The mode adopted to destroy the Panther is usually this. A bait, consisting of a piece of flesh, is suspended

* See Plate iv. Fig. 3.

DESCRIPTION. The length of the Panther is usually more than six feet, exclusive of the tail, which is about three feet long. The colour of the upper parts of the body is bright tawny-yellow, with numerous black, roundish, or somewhat annular marks, several of which have in the centre of each a black spot. The under parts of the body are white.

SYNONYMS. *Felis pardus*. *Linnaeus*.—*La Panthère*. *Buffon*.—*Shaw's Gen. Zool. Pl. 84, from Buffon*.—*Bew. Quad. p. 212*.

on a tree, in the immediate neighbourhood of which the hunter has previously erected a hut for his own concealment. The smell of the flesh attracts the animal to the spot, and, whilst he is in the act of seizing it, the hunter shoots him, with an aim so correct as almost always to wound him mortally. On the following day, and not before, he ventures to issue from his hiding-place, and, by means of a dog trained for the purpose, tracks the animal to his retreat. If he be still alive, the dog inevitably falls a sacrifice to his rage, and his cries give warning to the hunter to retreat from similar danger; but if he be dead, which most commonly is the case, the man seizes upon his prize unmolested.

An instance is recorded by Poiret, of a moor who was pursued by a wounded Panther. He says, that the man escaped only by the stratagem of throwing a part of his clothes upon a bush as he passed by it. These the animal sprang upon and tore into a thousand fragments.

THE OUNCE*, AND HUNTING LEOPARD.

The inhabitants of several provinces of Persia, tame the Ounce, for the purpose of employing it in the chase. In the hot climates of Asia dogs are rarely to be found, unless they have been transported thither from Europe; and even in this case they soon lose not only their voice, but their faculty of hunting.

The scent of the Ounce is inferior to that of the dog, and he consequently hunts almost wholly by the eye; but so perfect are all his other faculties, that he is infinitely more expeditious in the killing of game than any number of dogs could possibly be.

* DESCRIPTION. The Ounce is much smaller than the Panther: its body seldom exceeds the length of about three feet and a half. The hair is long and somewhat shaggy. Its colour is a tawny white, with numerous irregular black marks. The length of the tail is about three feet.

SYNONYMS. *Felis uncia*. *Linnaeus*.—L'Once. *Buffon*.—*Shaw's Gen. Zool. Pl.* 87.

Some of these animals are so small, that the Persians are able to carry them on horseback, upon small leather pads made for the purpose; and they are so gentle towards those who are accustomed to attend and feed them, that they will without difficulty suffer themselves to be handled and caressed. The horseman no sooner perceives a gazelle or an antelope within proper distance, than he makes the Ounce descend; and, if the animal be at all expert in his business, he generally is enabled to seize his prey by the neck in five or six leaps.

The Hunting Leopard *, which is an Indian animal, is likewise frequently tamed, and is used in the chase of Antelopes. It is carried in a kind of small waggon, chained and hooded, lest, on approaching the herd, it should be too precipitate, or should not make choice of a proper animal. When first unchained, it does not immediately spring towards its prey; but winds, with the utmost caution, along the ground, stopping at intervals, and carefully concealing itself till a favourable opportunity offers: it then darts on the herd with astonishing swiftness, and overtakes them by the rapidity of its bounds. If, however, in its first attempt, which consists of five or six amazing leaps, it does not succeed, it loses its breath; and, finding itself unequal in speed, stands still for a while to recover; then giving up the point for that time, quietly returns to its keeper.

* See Plate ii. Fig. 2.

DESCRIPTION. The Hunting Leopard is about the height of a large Greyhound; of a light tawny brown colour, marked with numerous circular black spots. The legs and tail are long. Its form is more lengthened than that of the Tiger, and the chest is narrower.

SYNONYMS. *Felis Jubata*. *Linnaeus*.—Jaguar ou Léopard. *Buffon*.—*Shaw's Gen. Zool.* Pl. 86.

THE LEOPARD*.

The general appearance of the Leopard is ferocious and cruel. His eye is restless, his countenance forbidding, and all his motions are short and precipitate. In his general habits he resembles the panther; he lies in ambush for prey, and thence springs upon and devours almost every species of animal which he has the strength to overcome. Occasionally these beasts have been known to descend in great numbers from their lurking-places, and commit dreadful slaughter among the numerous herds of cattle which graze in the plains.

In the year 1708, if we may believe the account recorded by Kolben, a male and female Leopard, with three young-ones, entered a sheep-fold at the Cape. They killed nearly a hundred sheep, and regaled themselves with the blood. When the old ones were satiated, they tore a carcass into three pieces, and gave one of these to each of their offspring. They then took each a whole sheep; and, thus laden, began to move off. Having, however, been observed, they were way-laid on their return, and the female and three young-ones killed; but the male effected his escape. The same writer also informs us, that the Leopard will not eat carrion, nor deign to touch what has been killed by any other beast.

The negroes take these animals by means of pitfalls covered slightly over with hurdles, on which a piece of flesh is placed as a bait. They are not, however, employed in the chase, like the Ounce or the Hunting Leopard.

The late Sir Ashton Lever had a Leopard, which he

* DESCRIPTION. This animal is about four feet in length; of a yellowish colour, and marked with numerous annular spots. The tail is about two feet and a half long.

It is an inhabitant of Senegal, Guinea, and most parts of Africa.

SYNONYMS. *Felis Leopardus*. *Linnaeus*.—Le Leopard. *Buffon*.—*Shaw's Gen. Zool. Pl.* 83.—*Bew. Quad.* p. 214.

kept in a cage at Leicester House. It had become so tame, as always to seem highly pleased by caresses and attention, purring and rubbing its sides against the cage like a cat. Sir Ashton gave it to the royal menagerie in the Tower; where a person, before acquainted with it, saw it after an interval of more than a year, notwithstanding which it appeared instantly to recognize him, and began as usual to renew its caresses.

The flesh of the Leopard, says Kolben, is white and well-tasted, and eats much better than the finest veal! It is both nourishing and delicious; that of the young is as tender as a chicken! The skins are brought into Europe, where they are in great estimation: some of the most beautiful of them sell for more than ten guineas each.

THE PUMA, OR SOUTH AMERICAN LION*.

By the Spaniards of Peru and Chili this animal has been denominated the Lion of South America; and in its colour, its voice, and general shape, except that it is destitute of mane, it is not altogether unlike that animal.

The Puma inhabits the thickest forests, and the most inaccessible mountains, from which it makes incursions into the plains to attack domestic animals, particularly horses, whose flesh it prefers to that of any others. In the mode of seizing its prey it resembles the cat: it approaches by crawling along upon its belly; it glides softly through the shrubs and bushes, conceals itself in ditches, or, if it show itself it assumes a mild and fawn-

* DESCRIPTION. The length of the body of the Puma is about five feet, and its height two feet and a half; and its tail is about two feet long. The head is round, and the ears are short. Its colour is a pale, brownish red, somewhat darker in some parts than in others. The under parts are white.

SYNONYMS. *Felis Puma*. *Linnaeus*.—*Le Cougar*. *Buffon*.—*Puma*, by the Peruvians.—*Shaw's Gen. Zool. Pl.* 89.—*Bew. Quad. p.* 209.

ing appearance. But all this time it is only watching a favourable opportunity to seize the animal which it has marked for its victim: at one leap it fastens itself upon the back of its prey, and, in a few minutes, tears it to pieces. It then sucks the blood, devours the flesh of the breast, and carries the remainder of the carcass into the nearest wood, where it conceals it with leaves and boughs of trees, in order to eat it at leisure.

It is a common practice for the husbandmen of Chili to fasten two of their horses together in the fields; and whenever the Puma finds them in this situation, Molina informs us, that it kills one and drags it away, and compels the other to follow, by striking it from time to time with its paw. The favourite haunts of the Puma are the streams to which animals usually repair to drink: here it conceals itself upon a tree, and scarcely ever fails of seizing one of them. The horses, however, have an instinctive dread of these places, and even when pressed by thirst, they approach them with great caution, carefully examining on every side to discover if there be danger. Cows defend themselves against these animals. As soon as one of them appears, they range themselves in a circle round their calves, and with their horns turned toward the assailant, await his attack, and not unfrequently destroy him.

All such animals that have not young-ones, attempt, at the approach of the Puma, to save themselves by flight. The ass alone, from want of speed, is compelled to defend himself with his heels, and frequently proves successful. But should the Puma leap upon his back, the ass immediately throws himself upon the ground, or runs with all his force against the trunks of trees; and thus endeavours to free himself from his assailant.

The Puma is naturally a coward, and the appearance of even a woman or a child is sufficient to make him fly and abandon his prey. He is hunted with dogs trained for the purpose, and when hard pressed, either leaps upon a tree, seeks an asylum on a rock, or placing him-

THE JAGUAR, OR SOUTH AMERICAN TIGER.

self against the trunk of some large tree, defends himself in a furious manner.

In captivity the Puma loses much of his savage nature, and may be rendered almost as gentle as a domestic animal. A Puma mentioned in the supplementary volumes of M. de Buffon, would suffer himself to be patted with the hand; and children were frequently known to mount astride upon his back, without his exhibiting the slightest symptom of resentment. Mr. Keen the actor, when in London, has generally in his house a Puma, belonging to Mr. Cross, the proprietor of the menagerie of Exeter 'Change. This animal is sometimes introduced into the room when he has company; and by many persons is considered to be a lion.

THE JAGUAR, OR SOUTH AMERICAN TIGER*.

The Jaguar has most of the habits, and nearly all the propensities of the Puma. He is so strong and voracious, that he is able to seize and carry off a sheep or deer with the utmost facility; and yet he is so cowardly, that he may sometimes be put to flight by a shout. Cows and horses are not always secure from his attack. These animals, as he is unable to drag them to his retreat in the forests, he tears to pieces upon the spot; and he satiates himself with their blood. The strongest of the wild boars he is able to overthrow by a single

* **DESCRIPTION.** The Jaguar is somewhat larger than the Wolf, of a brownish yellow colour, variegated on the upper parts of the body with streaks, and open oblong spots or markings of black. The thighs and legs also have black spots, but without central spaces; the breast and belly are whitish. The tail is about two feet and a half in length.

It is a native of Brazil, and several other parts of South America.

SYNONYMS. *Felis Onca*. Linnæus.—Le Jaguar. Buffon.—Brazilian Cat. Pennant.—Shaw's Gen. Zool. Pl. 87.—Bew. Quad. p. 217.

stroke of his paw. Few of the American animals are a match for the Jaguar, except the enormous serpents, which frequent the savannahs; and these, it is currently stated, by entwining themselves round his body, are able to strangle and destroy him.

The Jaguar is not an indolent animal, as some writers have asserted. He constantly attacks dogs; often commits great devastation among flocks; and, in the deserts, is formidable even to men. In a journey made by M. Sonnini, through the forests of Guiana, he and his party were tormented by one of these beasts, for three successive nights; and yet the animal avoided all the attempts that were made to destroy him. But finding that large fires were constantly kept up, he at last left them, venting a dismal howl at his departure.

The power which these animals have of ascending trees is very remarkable. M. Sonnini states, that he has seen marks of the claws of a Jaguar, on the smooth bark of a tree, which was betwixt forty and fifty feet in height, and which had not a single branch except at the top. He says that it was easy to remark the efforts the animal had made: although he had pierced through the bark, deeply into the wood, he had evidently slipped more than once; but he had surmounted every difficulty, and, attracted no doubt by some prey which was peculiarly alluring, had attained the summit.

THE CAPE CAT *.

These elegant animals, which, in size, are considerably larger than the domestic cat, are found wild among the mountains near the Cape of Good Hope. In the

* DESCRIPTION. The Cape Cat is of a bright tawny colour, and marked on the back with oblong black streaks, and in the other parts of the body with blotches of the same. A skin,

places adjacent to their retreat, they are very destructive to rabbits, young antelopes, lambs, and even to all the feathered race. In disposition, however, they are by no means so fierce as the generality of their tribe; and, when caught young, may be easily rendered tame and domestic.

In the year 1795, when Dr. Forster was at the Cape, he saw one of these animals, which was about nine months old. He says that its manners and economy seemed perfectly analogous to those of our domestic cats. It ate fresh raw meat, and appeared very much to attach itself to its feeders and benefactors. After Dr. Forster had fed it a few times, it followed him like a tame cat. It was fond of being stroked and caressed; rubbed its head and back against the person's clothes who fed it, and seemed desirous of being noticed; and it purred in the same manner as domestic cats do when they are pleased.

THE WILD CAT*.

The manners of the Wild Cat are nearly allied to those of the lynx, and to those of several others of the larger species of its tribe. It may, with propriety, be denominated the British Tiger, since it is by far the

measured by Mr. Pennant, was found to measure three feet, from the nose to the tail.

SYNONYMS. *Felis Capensis*. *Linnaeus*.—Tiger Cat of the Cape of Good Hope. *Forster*.—Tiger Bush Cat. *Kolben*.—Cape Cat. *Pennant*.—*Shaw's Gen. Zool. Pl. 88*.

* DESCRIPTION. This animal has a larger head and stronger limbs than the domestic cat. Its colour is a pale yellowish-gray, with dusky stripes; those on the back running lengthwise, and those on the sides transversely and in a curved direction. The tail is shorter than in the domestic kinds, and is barred with dusky rings.

SYNONYMS. *Felis Catus*. *Linn.*—Common Cat. *Penn.*—Chat Sauvage. *Buffon*.—*Bingley's Mem. of Brit. Quad. Pl. 11*.

fiercest and most destructive beast that is found in our island.

These animals are sometimes caught in traps, and sometimes killed with guns. It is, however, dangerous to merely wound them, for in this case they have sometimes been known to attack the assailant; and their strength is so great as to render them no despicable enemy. At Barnboro', a village between Doncaster and Barnsley, in Yorkshire, there is a tradition extant of a serious conflict that once took place between a Man and a Wild Cat. The inhabitants say, that the fight commenced in an adjacent wood, and that it was continued thence into the porch of the church. I do not recollect in what manner it is reported to have begun; but they state that it ended fatally to both combatants. A rude painting in the church commemorates the event; and the accidentally natural red tinge of some of the stones, is considered as stains of blood still remaining.

Wild Cats breed in hollow trees, and usually produce four young-ones at a litter. They are yet found in several of the mountainous districts of Scotland and Ireland; and occasionally amongst the woods that border the lakes of the North of England. In the neighbourhood of the places which they inhabit, they often make destructive havoc among lambs and poultry.

The Domestic Cat. The manners and disposition of the Cat seem to be entirely changed by education; and, although it does not exhibit towards mankind the affection of the dog, yet it is by no means destitute either of gentleness or gratitude. These animals are not, like the dog, attached to our persons: their chief attachment seems to be to the houses in which they have been brought up. Instances are not uncommon of Cats having returned, of their own accord, to the place from which they have been carried; though at the distance of many miles, and even across rivers, where they could not possibly have had any knowledge either of

the road, or of the direction that would lead them to it. This local attachment may perhaps arise from their having been acquainted, in their former habitations, with all the retreats of the mice, and the passages and outlets of the house; and from the disadvantages which they must experience in these particulars by changing their residence.

Few animals exhibit more maternal tenderness, or show a greater love for their offspring, than the Cat. The assiduity with which she attends them, and the pleasure which she seems to take in all their playful tricks, afford a grateful entertainment to every observer of nature. She has also been known not only to nurse with tenderness the offspring of different individuals of her own species, but even those of other kinds of animals.

A friend of the Rev. Mr. White of Selborne, had a little helpless *leveret* brought to him, which the servants fed with milk from a spoon; and about the same time his Cat kittenned, and her young-ones were destroyed. The hare was soon lost; and was supposed to have been killed by some dog or cat. About a fortnight afterwards, as its owner was sitting in his garden, in the dusk of the evening, he observed his Cat, with tail erect, trotting towards him, and calling with little short inward notes of complacency, (such as these animals use towards their kittens,) to something gambolling after her, which proved to be the leveret, that the Cat had nourished with her milk, and continued to support with great affection. Thus was a graminivorous animal nurtured by a carnivorous and predacious one! This strange affection in the Cat was probably occasioned by those tender maternal feelings, which the loss of her kittens had awakened; and by the complacency and ease she had derived from having her teats drawn, when too much distended with milk. From habit, she became as much delighted with this foundling, as if it had been her real offspring.

A boy (Mr. White says) brought to him three young

squirrels which had been taken from their nest. These little creatures he put under a Cat that had recently lost her kittens; and he found that she nursed and suckled them with the same assiduity and affection as if they had been her own progeny. So many persons, however, went to see the little squirrels suckled by a Cat, that the foster-mother became jealous of her charge, and in pain for their safety; and therefore hid them over the ceiling, where one of them died.

Some years ago a sympathy of this nature took place, in the house of Mr. James Greenfield of Maryland, betwixt a *Cat and a Rat*. The Cat had kittens, to which she frequently carried mice and other small animals for food; and among the rest she is supposed to have carried to them a young rat. The kittens, probably not being hungry, played with it; and when the Cat gave suck to them, the rat likewise sucked her. This having been observed by some of the servants, Mr. Greenfield was informed of it. He had the kittens and rat brought down stairs and put on the floor; and in carrying them off, the Cat was remarked to convey away the young rat as tenderly as she did any of the kittens. This experiment was repeated as often as any company came to the house, till a great number of persons had become eye-witnesses of the extraordinary affection.

Cats, by means of their whiskers, seem to possess something like an additional sense: these have, perhaps, some analogy to the antennæ of moths and butterflies. They consist not only of long hairs on the upper lip, but also of four or five long hairs standing up from each eye-brow, and two or three on each cheek; all which, when the animal erects them, make, with their extremities, so many points in the periphery of a circle, equal (at least) in extent, to the circumference of their own bodies. With this instrument, it is supposed that, by a little experience, they can at once discover whether any aperture among hedges or shrubs (in which animals of this genus live in their wild state) is large

enough to admit their bodies; to them a matter of the greatest consequence, whether pursuing or pursued. They have likewise a power of erecting and bringing forward the whiskers on their lips; which probably is for the purpose of feeling whether a dark hole be further permeable or not.

It is generally supposed that Cats are able to see in the dark: but, although this is not absolutely the case, it is certain that they can see with much less light than most other animals; owing to the peculiar structure of their eyes, the pupils of which are capable of being contracted or dilated in proportion to the degree of light by which they are affected. In the day-time, the pupil of the Cat's eye is perpetually contracted, and sometimes into a mere line; for it is with difficulty that this animal can see by a strong light: but in the twilight the pupil resumes its natural roundness, and the animal enjoys perfect vision.

In order to preserve their fur clean, Cats wash their faces, and generally quite behind their ears, every time they eat. As they cannot lick those places with their tongues, they first wet the inside of their leg with the saliva, and then repeatedly rub them over with it. This Dr. Darwin, whimsically enough, esteems an act of reasoning; "because," he says, "a means is used to produce an effect; which means seems to be acquired by imitation, like the greatest part of human arts."

The fur of the Cat, being generally clean and dry, readily yields electric sparks when rubbed; and, if a clean and perfectly dry Domestic Cat be placed, in frosty weather, on a stool with glass feet, or be insulated by any other means, and rubbed for a little time in contact with the wire of a coated phial, the phial will become charged.

No experiment can be more beautiful than that of setting a kitten, for the first time, before a looking-glass. The animal appears surprised and pleased with the resemblance, and makes several attempts to touch its

new acquaintance; and, at length, finding its efforts fruitless, it looks behind the glass, and appears astonished at the absence of the figure. It again views itself, and tries to touch the image with its foot, suddenly looking at intervals behind the glass. It then becomes more accurate in its observations; and begins, as it were, to make experiments, by stretching out its paw in different directions; and when it finds that these motions are answered in every respect by the figure in the glass, it seems, at length, to be convinced of the real nature of the image.

The following curious fact in the natural history of the Cat, is related by Dr. Anderson, in his *Recreations in Agriculture*: A Cat belonging to Dr. Coventry, the ingenious Professor of Agriculture in Edinburgh, had no blemish at its birth, but lost its tail by accident when it was young. This Cat had many litters of kittens; and in every litter there was one or more that wanted the tail, either wholly or in part.

"A Cat (says Browne, in his *Natural History of Jamaica*) is a very dainty dish among the Negroes."

*The Angora Cat**. When M. Sonnini was in Egypt, he had an Angora Cat in his possession for a long time. It was entirely covered with long silky hairs: its tail formed a magnificent plume; which the animal elevated, at pleasure, over its body. Not one spot, nor a single dark shade, tarnished the dazzling whiteness of its coat. Its nose and lips were of a delicate rose-colour. Two large eyes sparkled in its round head; one of which was a light yellow, and the other a fine blue colour.

This beautiful animal had even more loveliness of manners, than grace in its attitude and movements. With the physiognomy of goodness, she possessed a

* SYNONYMS. ♀ *Felis Angotensis*. Linn.—Chat d'Angora. Buffon.—Angora Cat. Penn.

gentleness truly interesting. How ill soever any one used her, she never attempted to advance her claws from their sheaths. Sensible to kindness, she licked the hand which caressed, and even that which tormented her. On a journey, she reposed tranquilly on the knees of any of the company, for there was no occasion to confine her; and if M. Sonnini, or any other person whom she knew, was present, no noise whatever gave her the least disturbance.

In M. Sonnini's solitary moments, she chiefly kept by his side: she interrupted him frequently in the midst of his labours or meditations, by little caresses extremely affecting; and generally followed him in his walks. During his absence, she sought and called for him incessantly, with the utmost inquietude; and, if it was long before he reappeared, she would quit his apartment, and attach herself to the person of the house where he lived; for whom, next to himself, she entertained the greatest affection. She recognised his voice at a distance; and seemed on each fresh meeting with him to feel increased satisfaction. Her gait was frank, and her look as gentle as her character.

"This animal (says M. Sonnini) was my principal amusement for several years. How was the expression of her attachment depicted upon her countenance! How many times have her tender caresses made me forget my troubles, and consoled me in my misfortunes! My beautiful and interesting companion, however, at length perished. After several days of suffering, during which I never forsook her, her eyes, constantly fixed on me, were at length extinguished; and her loss rent my heart with sorrow."

THE LYNX*.

This animal is proverbial for his piercing sight.

* See Plate iv. Fig. 4.

DESCRIPTION. The Lynx is four feet in length, exclu-

The ancients even went so far as to believe that he could see through stone walls. For us, however, it is sufficient to know that, probably, there is no beast existing which is able to discover its prey at so great a distance as the Lynx.

Most of the northern parts of Europe, of Asia and America, are subject to the depredations of these voracious and destructive animals. They prefer cold to temperate climates; are seldom found in the open plains; but, like the tiger, leopard, and panther, conceal themselves in the thick shelter of woods and forests. Their voice is not easily distinguished from that of the wolf.

The Lynx is able to pursue his prey even into the branches of the highest trees. Neither the wild cat, the martin, the ermine, nor even the squirrel, can escape him. He also unrelentingly seizes upon and destroys the stag, the roe-buck, and the hare. When sheep happen to be folded in the neighbourhood of his retreat, he will scratch his way through the earth, under the doors of the fold; and, if not checked by the presence of the shepherd, will commit the most horrible devastations.

Such is the native ferocity of the Lynx, that it is considered impossible to tame and subdue him. In a state of captivity, on the slightest irritation or insult, he expresses his malignity by a kind of snarling scream.

The fur of the Lynx is thick and soft; and, when of a pale or whitish colour, with the spots tolerably distinct, is extremely valuable. The Russians sell the

sive of the tail, which measures about six inches. The ears are erect, and have a long pencil of black hair at the tip. The fur is long and thick. The upper parts of the body are of a pale gray colour, with a reddish tinge, and obscurely marked with small dusky spots. The under parts are white.

SYNONYMS. *Felix Lynx*. *Linnaeus*.—*Le Lynx*. *Buffon*.—*Shaw's Gen. Zool. Pl. 91, from Buffon*.—*Bew. Quad. p. 235*.

skins of Lynxes to the Chinese, at a rate from about fifteen shillings to five or six pounds each, exclusive of the fore-feet, which are also valuable, and sold separately.

OF THE WEESEL TRIBE*.

These are all carnivorous animals. From their slender and lengthened bodies, short legs, and the very free motion in every direction, permitted by the loose articulations of the spine, they are well formed for pursuing their prey into the deepest recesses. Constituted by nature to subsist on animals, many of which have great strength and courage, the Weesels possess an undaunted and ferocious disposition.

The species are extremely numerous.

THE ICHNEUMON†.

The estimation in which this animal is held, by the inhabitants of Egypt, and other hot climates, is so great, that it was formerly ranked among their deities. The natural enemy of serpents and other noxious rep-

* These animals have, in each jaw, six sharpish cutting-teeth, and the canine-teeth somewhat longer; a long and slender body, with short legs; a sharpened visage; and, in most species, a longish tail. In some animals of this tribe the tongue is smooth; and in others, it is furnished with prickles that point backward.

† See Plate ii. Fig. 3.

DESCRIPTION. The length of the Ichneumon, from the tip of the nose to the end of the tail, is from twenty-four to forty-two inches, of which the tail occupies nearly half. Its colour is pale reddish-gray, each hair being mottled with brown or mouse-colour. The eyes are of a bright red; the ears almost naked, small, and rounded; and the nose is long and slender. The tail is very thick at the base; and gradually tapers towards the point, where it is slightly tufted. The hair is hard and coarse, and the legs are short.

SYNONYMS. *Viverra Ichneumon*. Linn.—Egyptian Ichneumon. Kerr.—Great Mangouste. Ichneumon. Penn.—*Shaw's Gen. Zool. Pl. 92.*—Bew. *Quad. p. 261.*

tiles that infest these countries, it unsparingly attacks them whenever it has an opportunity. It combats, without dread, that most fatal of all serpents, the Cobra di Capello*. The eggs of crocodiles it digs out of the sand, and devours; and it even kills great numbers of young crocodiles.

The Ichneumon is frequently domesticated, and kept in houses, where, in destroying rats and mice, it is found more useful than a cat. It is easily tamed, is very active, and springs with great agility on its prey. It will slide along the ground almost like a serpent. It sits upright to eat, uses its fore-feet, and catches at any thing that is flung to it. The Ichneumon is a great enemy to poultry, and will feign itself dead to attract them within its reach; and the address with which it seizes a serpent by the throat, is very remarkable.

Fouche d'Obsonville had an Ichneumon very young, which he brought up. He fed it at first with milk; and afterwards with baked meat mixed with rice. It soon became even tamer than a cat; for it would come to him when called, and would even follow him into the fields without attempting to escape.

One day M. d'Obsonville brought to this animal a small water-serpent alive, being desirous of ascertaining how his instinct would lead him to act against a creature with which he was hitherto totally unacquainted. His first emotion seemed to be astonishment mixed with anger, for his hair became erect; but in an instant afterwards, he slipped behind the reptile, and with astonishing agility leaped upon its head, seized it, and crushed it between his teeth. This essay, and new aliment, seemed to have awakened in the Ichneumon his innate and destructive voracity, which, till then, had given way to the gentleness he had acquired from his education. M. D'Obsonville had in his yard several

* *Coluber naja* of Linnæus.

curious kinds of fowls, among which the animal had been brought up, and which, till then, he had suffered to live unmolested and indeed unregarded; but, a few days after this, he strangled every one of them.

In a wild state, the Ichneumon is said to frequent principally the banks of rivers; and in times of flood, to approach the higher grounds and inhabited places, in quest of prey. He is reported to swim and dive occasionally, in the manner of an otter; and to continue beneath the water for a great length of time. When he sleeps, he folds himself up like a ball, and is not easily awaked. Ichneumons are short-lived, and grow very rapidly. In northern climates, they cannot, without difficulty, be either reared or preserved. Whatever care be taken, the frosts incommode them, and they generally soon fall victims to the change.

THE STRIATED WEASEL, OR SKUNK*.

This is one of three or four species of Weasel, natives of America, whose only mode of defence against their enemies (and it is a perfectly secure one) is to emit from their bodies a vapour so fetid, that few animals can bear to come within its influence. Cattle that are near are so alarmed, as to utter the most dreadful belowings. Dogs are indeed sometimes trained to hunt them; but, in order to relieve themselves, they are under the necessity of frequently thrusting their noses into the earth. The odour may be perceived to an amazing distance; and so abominable is it, that pro-

* DESCRIPTION. The length of this animal, from the nose to the tail, is about 18 inches; and of the tail 14 inches. The upper parts of the body are variegated or striped with black and white. The neck and legs are very short. The tail is clad, towards its extremity, with long, whitish hair.

SYNONYMS. *Viverra putorius*. *Linnaeus*.—Skunk. *Fiskatta*. *Kalm*. *Catesby*.—Striped Skunk. *Kerr*.—Conepate. *Buffon*.—Striated Weasel. *Pennant*.—*Shaw's Gen. Zool. Pl. 94*.—*Bew. Quad. p. 265*.

visions tainted by it can never afterwards be rendered eatable. When a Striated Weasel is irritated or killed near a dwelling, the whole place becomes infected; the clothes, provisions, and all the rooms are, in a few minutes, so saturated with the vapour, that no one can live in or use them for a long time afterwards. Clothes, although several times washed, soaked, and dried in the sun, retain their smell sometimes for weeks.

Professor Kalm says, that a Striated Weasel being one day perceived in its cave, a woman, unthinkingly, attacked and killed it. The whole place was in a moment filled with such a dreadful stench, that the woman was taken ill, and continued so for several days; and the provisions were so infected, that they were all thrown away.

It appears that these animals are, in some degree, attached to the society of mankind. They approach without apprehension, and boldly enter the country houses to search for eggs, passing fearlessly, even through the midst of dogs, which, instead of attacking them, generally run away at their approach. The husbandmen themselves dislike to shoot them on such occasions, lest they should fail of killing them, and be assailed by their nauseous stench. In order to free themselves from such unwelcome visitors, they have recourse to stratagem. Some of the company begin by caressing the animal, until an opportunity offers for one of them to seize it by the tail and hold it suspended; and in this position it may be killed without either difficulty or danger.

Strange as it may appear, these animals are sometimes domesticated; and as they never emit their fetor except when alarmed or irritated, they are not dreaded in this state. In February, 1820, there was one exhibited in the Menagerie at Exeter 'Change, London.

THE HONEY WEESSEL, OR RATEL*.

Formed by nature to be the adversary of bees, and the unwelcome visitor of their habitations, the Ratel is endued with a particular faculty of discovering and attacking them within their entrenchments. As a man placed at the mast-head, can most easily descry a sail or land at a great distance in the evening; so, probably, this time of the day is most convenient for the Ratel to look out for his food. Towards sun-set he issues from his hole. Near this he sits upright, and holds one of his paws before his eyes, in order to modify the rays of the sun, and at the same time to procure a distinct view of the object of his pursuit: and when, in consequence of peering thus on each side of his paw, opposite to the sun, he sees any bees fly, he knows that they are proceeding straight to their habitation, and consequently takes care to keep in the same direction in order to find them. He has, besides, the sagacity to follow the *Cuculus Indicator*, a little bird, which flies on, with a peculiar and alluring note, and guides him to the bees'-nests.

The Ratel is a native of the Cape of Good Hope, and his hide is so thick and tough that there is scarcely any way of destroying him but by beating him about the head, or plunging a knife into his body. The shortness of his legs will not permit him to make his escape by flight when pursued by hounds. He is, however, sometimes able to extricate himself from them by biting and scratching them in a most terrible manner: while, on the other hand, he is well defended from the assaults of

* DESCRIPTION. From the nose to the tail, the Ratel measures about two feet. Its back is cinereous; and along the sides runs a light-gray stripe that divides this from the belly, which is black. The legs are short; and the claws long, and formed for burrowing.

SYNONYMS. *Viverra mellivora*. Linn.—Honey-Weesel. Shaw.—Ratel. Sparrman.—Bew. Quad. p. 275.

their teeth by the toughness of his hide. For, when a hound endeavours to bite him, it can lay hold only on this part, which instantly separates from the Ratel's body or flesh, like a sack. Even when laid hold of by the hind part of the neck, and near his head, this animal can, as it were, turn round in his skin, and bite his enemy. It is a remarkable circumstance, that such a number of hounds as would be able collectively to tear in pieces a lion of moderate size, are sometimes obliged to leave the Ratel dead only in appearance. Is it not probable that the Creator, who seems to have destined the Ratel for the destruction of bees, may have bestowed on it a hide so much tougher than those he has given to other animals of the Viverra kind, for the purpose of defending it from the stings of these insects?

Those bees'-nests that are built in trees, are in no danger whatever from the attacks of this animal. In the first transports of his rage at having sought after such in vain, he gnaws the trunks of the trees; and these marks are sure indications to the inhabitants of the country, that a bees'-nest is to be found there.

THE CIVET*.

There are few animals more active and nimble than the Civet: it jumps about like a cat, in the most ani-

* See Plate ii. Fig. 4.

DESCRIPTION. The Civet is somewhat more than two feet long, and has a tail about half the length of its body. The ground colour is yellowish ash-gray, beautifully marked with large blackish or dusky spots. The hair is coarse; and, along the back, it stands up, so as to form a sort of mane. The body is thickish; and the nose sharp, and black at the tip. Three black stripes proceed from each ear, and end at the throat and shoulders.

It is an inhabitant of several parts both of Africa and India.

SYNONYMS. *Viverra Civetta*. *Linnaeus*.—Civet Cat. *Var.*—Civette. *Buffon*.—*Shaw's Gen. Zool. Pl.* 95.—*Bew. Quad.* p. 276.

mated manner, and runs with wonderful speed. The Civet feeds on small animals, but particularly on birds, which it takes by surprise; and it sometimes commits depredations among poultry, when it can steal unperceived into a farm-yard. It is a very voracious animal. One that M. Barbot had at Guadaloupe was accidentally kept without food for a whole day: the animal on the ensuing morning, gnawed his way through the cage in which he was kept, came into the room where M. Barbot was writing, and, staring about with sparkling eyes for a few seconds, made a leap of five or six feet at a parrot, that was perched on a piece of wood put into the wall for the purpose: before his master could run to the relief of the bird, the Civet had torn off its head.

This animal is remarkable for the production of the drug called civet, sometimes erroneously confounded with musk. This is a substance which is found in a large double glandular receptacle, situated at a little distance beneath the tail. The Dutch keep at Amsterdam great numbers of Civets, for the purpose of collecting the drug from them. When a sufficient time for the secretion has been allowed, one of these animals is put into a long wooden cage, so narrow that it cannot turn itself round. The cage being opened by a door behind, a small spoon, or spatula, is introduced through the orifice of the pouch, which is carefully scraped. This operation is performed twice or thrice a-week; and the animal is said always to produce the most civet, after being irritated. The quantity also depends in a great measure on the quality of the nourishment which it takes, and the appetite with which it eats. In confinement, its favourite food is boiled meat, eggs, birds, and small animals, and particularly fish.

There is a Civet in the Jardin des Plantes at Paris, which has been there several years. Its odour is at all times very powerful, but unusually so whenever it is irritated. It sleeps with its body rolled round, and its head between its legs. This posture it seldom changes

either in the night or day; and it sleeps so soundly, that it cannot be roused without severe blows.

With respect to the *civet* procured from Amsterdam, it is less adulterated, and therefore held in higher estimation, than that imported from India or the Levant. Its average value in Holland is about fifty shillings an ounce; but this is subject to considerable fluctuation. The substance is accounted best when new, of a whitish colour, a good consistence, and of a strong, disagreeable smell. This perfume is excessively powerful; but in small quantities it is more pleasant than musk, to which it bears some resemblance.

In a native state these animals are found in Guinea and the central parts of Africa. They inhabit only arid and sandy countries, and never frequent such as are humid and shady.

THE COMMON MARTIN AND PINE MARTIN*.

The general retreats of the Martin and Pine Martin are the hollows of decayed trees, so high up, and in other respects so situated, as to afford them perfect security. The place adopted for the nest of a squirrel is generally preferred to any other. Of this the Martin dispossesses the ingenious architect by killing him. The new tenant now enlarges the dimensions of its habitation, lines it with softer materials, and, in this secure retreat, produces its young.

* DESCRIPTION. These animals are each about 18 inches long. They are of a dark chesnut colour on the upper parts. The Common Martin is white on the throat and breast; and the Pine Martin yellow.

They are natives of Great Britain; and of various parts both of the old and new continent.

SYNONYMS. *Viverra foina*. Shaw.—*Mustela foina*. *Linnaeus*.—*La Fouine*. Buffon.—*Bingley's Memoirs of Brit. Quad. Pl.* 12.

Viverra Martes. Shaw.—*Mustela Martes*. *Linnaeus*.—*La Marte*. Buffon.—*Bingley's Mem. of Brit. Quad. Pl.* 13.

The courage of the Martin is so great, that it will attack animals much larger and stronger than itself. In a wild state it is sometimes very ferocious; but it may be rendered tame and docile. Gesner says, he kept a Pine Martin which was extremely playful and entertaining. It used to go to the houses of the neighbours, and always returned home when it wanted food. It was particularly fond of a dog with which it had been bred up; and would play with him as cats do, lying on its back, and pretending to bite him. M. de Buffon had one, which, though it had lost its ferocity, did not, however, discover any marks of attachment, and continued so wild as to require being chained. It frequently escaped from its confinement. At first it returned, after some hours' absence, but without appearing pleased; the time of absence of each succeeding elopement gradually increased, and at last it took a final departure. During its confinement, it sometimes slept for two days without intermission.

These animals have a musky smell, which to many persons is very agreeable. Their cry is sharp and piercing; but is never uttered except when in pain or distress. Their principal food consists of rats, mice, and other small quadrupeds; of poultry, and game: they are also remarkably fond of honey.

The female produces three or four young-ones at a litter, which soon arrive at a state of maturity. She is able to afford them but a small quantity of milk; but she compensates for this defect, by bringing to them eggs and live birds in abundance; and she thus early accustoms them to a life of carnage and plunder. As soon as the young-ones are able to leave the nest, she leads them through the woods; where they begin to seize on their prey, and to provide food for themselves.

Pine Martins are hunted in the North for the sake of their furs, which are held in great estimation: the most valuable part is that which extends along the back. In England these are used to line the robes of

magistrates, and for several other purposes. They form a considerable article of commerce; above twelve thousand being annually imported into this country from Hudson's Bay, and more than thirty thousand from Canada.

THE SABLE*.

Sables frequent the banks of rivers, and the thickest parts of the woods. They live in holes under the ground, and especially under the roots of trees; but they sometimes make their nests (consisting of moss, small twigs, and grass) in the hollows of trees. In winter they live on berries of different kinds; but in summer-time, before these are ripe, they devour hares, weasels, ermines, and other small animals. They are sprightly and active creatures; and are able, with wonderful agility, to leap from tree to tree, in the pursuit of squirrels and birds.

Two of these animals which had been in some measure domesticated, are described by M. Gmelin. He says, that whenever they saw a cat, they would rise on their hind feet to prepare for combat. In the night, they were extremely restless and active; but during the day, and particularly after eating, they generally slept so sound for half an hour, or an hour, that they might be pushed, shaken, and even pricked, without being awakened.

The skin of the Sable is more valuable than that of any other animal of equal size. One of these skins, not

* DESCRIPTION. This animal is about 18 inches in length; and, in its general shape, has a great resemblance to the Martin. The head is longish, and the muzzle somewhat sharpened. Its colour is a deep glossy brown.

It is a native of North America, Siberia, Kamtschatka, and Asiatic Russia.

SYNONYMS. *Viverra Zibellina*. Shaw.—*Mustela Zibellina*. Linn.—Sable Weasel. Pennant.—*Zibeline*. Buffon.—*Bewick's Quad.* p. 258.

more than four inches broad, has sometimes been valued at as high a rate as fifteen pounds; but the general price is from one pound to ten pounds, according to the quality. The Sable's fur is different from all others, in the hair turning with equal ease either way. The bellies of Sables, which are sold in pairs, are about two fingers in breadth; and are tied together in bundles of forty pieces, which are sold at from one to two pounds a bundle. The tails are sold by the hundred, at from four to eight pounds.

The manner in which the natives of Kamtschatka catch these animals is very simple. They follow the track of the Sable, in snow-shoes, till they have detected his covert, which is generally a burrow in the earth. As soon as the little creature is aware of his pursuers, he escapes into some hollow tree. This the hunters surround with a net, and then they either cut it down, or force the animal by fire and smoke to abandon his retreat, when he falls into the net and is killed. The tree in which a Sable is lodged, they sometimes surround with dogs trained for the purpose; and then, making a running noose on a strong cord, they find means to get the creature's head into the snare, and thus haul him down an easy prey.

The chase of the Sable, during the more barbarous periods of the Russian empire, was the principal task of the unhappy exiles who were banished into Siberia; and who, as well as the soldiers sent there, were obliged to furnish, within a given time, a certain quantity of furs: but as Siberia is now become more populous, the Sables have, in a great measure, quitted this part of the country, and retired further to the north and east, into the desert forests and mountains.

THE POLECAT, OR FITCHET*.

The Polecat is not afraid of the presence of mankind,

* DESCRIPTION. The length of the Polecat, exclusive of

but approaches with confidence our dwellings, mounts to their roofs, and often resides in barns, hay-lofts, or other places that are not much frequented. Thence he issues, under the shadow of night, to commit his depredations on eggs and poultry. He is exceedingly agile, and runs very fast. In the act of running, his belly seems to touch the ground; but, in preparing to jump, the animal arches his back very much, and by this means the projectile force of his body is greatly increased. In farm-yards, the Polecat makes less noise, but commits more mischief than the Martin. If, deterred by the narrowness of the entrance, he cannot convey the fowls away, he is said to eat the brain on the spot, and to carry off the heads to his place of concealment, leaving the bodies behind.

In Lorraine, and some of the adjacent cantons, Polecats are very numerous; and consequently there, as elsewhere, they commit great havoc in the poultry-yards. Yet, says M. Sonnini, such are the superstitious prejudices in their favour, that the inhabitants will on no account attempt to destroy them. They pretend that Polecats never commit any damage in the dwellings where they reside; thus, at the same time that they know and acknowledge their voracious disposition, they believe that the animals entertain a singular respect for hospitality.

The Polecat, during summer, generally lives in woods, thick brakes, or about rabbit-warrens. Here, if he cannot find ready-made a hole that suits him, he forms for himself, in the ground, a retreat not usually more than two yards in length, which, if possible, he con-

the tail, is about 17 inches; and of the tail 3 inches. In shape this animal resembles the Martin. The ears are short, and tipped with white. The tail is covered with longish hair. The general colour is a deep chocolate, nearly approaching to black.

SYNONYMS. *Mystela Putorius*. *Linnaeus*.—*Le Putois*. *Buffon*.—*Foumart*. *Bewick*.—*Bingley's Memoirs of Brit. Quad.* Pl. 14.

trives to end among the roots of some large tree. Issuing thence, he often commits surprising depredations on game and rabbits. A single family of Polecats, left undisturbed, are sometimes sufficient to destroy a whole warren. It is asserted that these animals are so fond of honey, that, in winter, when the bees are weakened by the rigours of the season, they have been known to attack the hives, and voraciously to devour their contents.

That the Polecat will sometimes prey upon fish, is a circumstance that was known to several of the old writers on natural history, and is noticed both by Aldrovandus and Johnston. A curious fact, illustrative of this propensity, is recorded in Bewick's History of Quadrupeds. During a severe storm, a Polecat was tracked in the snow, from the side of a rivulet to its hole, at some distance. On examining this hole, it was found to contain eleven eels, the fruits of some of the animal's nocturnal excursions.

The smell of the Polecat is proverbially fetid, the animal being furnished, like several others of its tribe, with certain receptacles for secreting a thickish fluid, which has a peculiarly strong and offensive odour. When the Polecat is heated or enraged, the stench is sometimes perceptible to a considerable distance. Notwithstanding this, its fur is both beautiful and valuable. The skins taken from animals killed in winter, are the most valuable.

The female Polecats produce their young-ones, from three to six in number, in the beginning of summer. This is usually done either in or near the out-house of some farm. Like the Martins, these animals do not suckle them long, but soon accustom them to animal food *.

* The preceding account of the Polecat, is extracted (with some omissions) from the Memoirs of British Quadrupeds.

THE FERRET *.

Great as is the general resemblance, in their manners and habits, betwixt the Ferret and the Polecat, it is evident that they are of distinct species. The Ferret is a native of Africa, and has been imported into Europe for the purpose of being employed in driving rabbits from their burrows. Although easily tamed and rendered docile, these animals are exceedingly irascible; and, if at all provoked, will inflict very severe wounds with their teeth. Their smell is strong and offensive.

Ferrets are generally kept in casks or chests, well supplied with hay or straw; on which they sleep almost through the whole day. The females usually produce six or seven young-ones at a litter. These are blind for a month; and, after two months, are sufficiently old to be employed in the rabbit-warrens. They ought not to be fed immediately before they are used in the burrows; because, in this case, they become indolent and may not hunt. It is also necessary that, in this operation, they should be muzzled, in order that they may not satiate their appetite in the holes; for, after having sucked the blood of the rabbits, they will often fall asleep, and continue underground for many hours.

A mixed breed, betwixt the Ferret and the Polecat, is sometimes used by the warreners, and is considered in some respects preferable to the whole-bred Ferret.

* DESCRIPTION. The Ferret is somewhat smaller than the polecat. Its eyes are red; and the general colour of its body a dingy but pale yellow.

SYNONYMS. *Viverra furo*. Shaw.—*Mustela furo*. Linn.—*Le Furet*. Buffon.—*Shaw's Gen. Zool. Pl. 98.*

THE COMMON WEESEL*.

The Weesel is a beautiful and active little animal, well known to husbandmen and farmers in almost every part of Great Britain. It lives chiefly in cavities under the roots of trees, and in the banks of rivulets; from which it issues, at the approach of evening, to commit its depredations; and there is no creature of its size, more destructive to young birds, poultry, or rabbits, than this. It also sucks eggs with great avidity. In this operation, it begins by making a small hole at one end, from which it licks out the yolk, leaving the shell behind; whereas rats, and some other animals, drag the egg out of the nest, and either make a large hole in it or break it to pieces. By this circumstance the attacks of the Weesel may always be distinguished from those of a rat.

M. de Buffon supposed the Weesel to be untameable; but Mademoiselle de Laistre, in a letter written to him on this subject, gives a very pleasing account of the education and manners of a Weesel which she took under her protection. This she fed with fresh meat and milk, the latter of which it was very fond of. It frequently ate from her hand, and seemed to be more delighted with this mode of feeding than any other. "If I pour some milk into my hand, (says this lady,) it will drink a good deal; but if I do not pay it this compliment, it will scarcely take a drop. When satisfied, it generally goes to sleep. My chamber is the place of

* DESCRIPTION. The length of the Weesel, exclusive of the tail, is about seven inches; and its height is not more than two and a half. The colour of its upper parts is a pale reddish brown; and its breast and belly are white; but on each side, below the corners of the mouth, there is a brown spot. The ears are small and rounded, and the eyes black.

SYNONYMS. *Viverra vulgaris*. *Shaw*.—*Mustela vulgaris*. *Linnaeus*.—Weesel, Whitret, or Whitred, in Scotland.—*Bingley's Mem. of Brit. Quad. Pl.* 15.

its residence; and I have found a method of dispelling its strong smell by perfumes. By day, it sleeps in a quilt, into which it gets by an unsewn place which it has discovered on the edge: during the night, it is kept in a wired box or cage; which it always enters with reluctance, and leaves with pleasure. If it be set at liberty before my time of rising, after a thousand little playful tricks, it gets into my bed, and goes to sleep in my hand or on my bosom. If I am up first, it spends a full half-hour in caressing me; playing with my fingers like a little dog, jumping on my head and on my neck, and running round on my arms and body, with a lightness and elegance which I have never found in any other animal. If I present my hands at the distance of three feet, it jumps into them without ever missing. It exhibits great address and cunning to compass its ends, and seems to disobey certain prohibitions merely through caprice. During all its actions, it seems solicitous to divert, and to be noticed; looking, at every jump, and at every turn, to see whether it be observed or not. If no notice be taken of its gambols, it ceases them immediately, and betakes itself to sleep; and even when awakened from the soundest sleep, it instantly resumes its gaiety, and frolics about in as sprightly a manner as before. It never shows any ill-humour, unless when confined, or teased too much; in which case it expresses its displeasure by a sort of murmur, very different from that which it utters when pleased.

“It the midst of twenty people, this little animal distinguishes my voice, seeks me out, and springs over every body to come at me. His play with me is the most lively and caressing imaginable. With his two little paws he pats me on the chin, with an air and manner expressive of delight. This, and a thousand other preferences, show that his attachment to me is real. When he sees me dressed for going out, he will not leave me, and it is not without some trouble that I can disengage myself from him; he then hides himself

behind a cabinet near the door, and jumps upon me as I pass, with so much celerity that I often can scarcely perceive him.

"He seems to resemble a squirrel in vivacity, agility, voice, and his manner of murmuring. During the summer, he squeaks and runs about all night long; but since the commencement of the cold weather I have not observed this. Sometimes, when the sun shines while he is playing on the bed, he turns and tumbles about and murmurs for a while.

"From his delight in drinking milk out of my hand, into which I pour a very little at a time, and his custom of sipping the little drops and edges of the fluid, it seems probable that he drinks dew in the same manner. He seldom drinks water, and then only for want of milk, and with great caution; seeming only to refresh his tongue once or twice, and even to be afraid of that fluid. During the hot weather, it rained a good deal. I presented to him some rain-water in a dish, and endeavoured to make him go into it, but could not succeed. I then wetted a piece of linen cloth in it, and put it near him; and he rolled upon it with extreme delight.

"One singularity in this charming animal is his curiosity. It is impossible to open a draw or a box, or even to look at a paper, but he will examine it also. If he get into any place where I am afraid of permitting him to stay, I take a paper or a book, and look attentively at it; on which he immediately runs upon my hand, and surveys with an inquisitive air whatever I happen to hold. I must further observe, that he plays with a young cat and dog, both of considerable size; getting about their necks, backs, and paws, without their doing him the least injury."

According to the account given by M. de Buffon, the method of taming these creatures is to stroke them gently over the back; and to threaten, and even beat them when they attempt to bite.

The motion of the Weasel consists of unequal leaps;

and it can spring several feet from the ground. It is a remarkably active animal, and will run up a wall with such facility, that no place is secure from it. It is useful to the farmer in ridding him of rats and mice, which it will pursue into their holes and there kill; but its depredations are not altogether confined to these pernicious animals, as it also frequently destroys young poultry and pigeons. It seizes its prey near the head, but seldom eats it on the spot; and often destroys moles in their habitations. We are told that when the Weesel pursues the hare, that timid creature is terrified into a state of absolute imbecility; and gives itself up without the least resistance, making, at the same time, the most piteous outcries.

A story is related, that an eagle having seized a Weesel, mounted into the air with it, and was soon afterwards observed to be in great distress. The Weesel so far extricated himself, as to be able to bite the eagle very severely in the neck; which presently brought the bird to the ground, and gave the Weesel an opportunity of escaping.

The female produces her young-ones in the spring of the year; and prepares for them a bed of moss, leaves, and straw. Aldrovandus tells us, that when she suspects they will be stolen, she carries them in her mouth from place to place, changing her retreat even several times a-day. M. de Buffon informs us, that, in his neighbourhood, a Weesel with three young-ones was taken out of the body of a wolf, that had been hung on a tree by the hind-feet. The wolf was in a state of putrefaction; and the Weesel had made a nest of leaves and herbage in the thorax.

Among other curious particulars respecting this animal, it has been observed, that, when asleep, its muscles are in a state of such extreme flaccidity, that it may be taken up by the head, and several times swung backward and forward, like a pendulum, before it will awake.

The Stoat or Ermine *. In northern climates this animal is brown in summer, and white in the winter. In the former of these states it is denominated *Stoat*, and in the latter *Ermine*. The tip of its tail, however, continues always black. Its habits of life are similar to those of the Weasel.

OF THE OTTERS IN GENERAL †.

There are about eight ascertained species of Otters. These animals differ much from the Weesels in their habits. They live almost constantly in the water, from which they principally derive their food. Their bodies are very long, and their legs short. They burrow and form dwellings in the banks of rivers and lakes, in the neighbourhood of the situations where they find their prey.

THE COMMON OTTER ‡.

The habitation of the Otter is almost always made

* **SYNONYMS.** *Viverra Erminea*. *Shaw*.—*Mustela Erminea*. *Linnaeus*.—*Hermine*, ou *Roselet*. *Buffon*.—*Bingley's Memoirs of British Quadrupeds*, Pl. 16.

† Otters have, in each jaw, six sharpish cutting teeth; the lower ones of which do not stand in an even line with the rest, but two are placed somewhat within the others. The canine teeth are rather longer than the other teeth. All the animals of this tribe have webbed feet.

‡ **DESCRIPTION.** This animal is about two feet in length, from the nose to the insertion of the tail; and the length of the tail is nearly sixteen inches. Its legs are short, but strong and muscular. The head is broad, oval, and flat on the upper part; and the body is long and round. The legs are so placed as to be capable of being brought into a line with the body, and of performing the office of fins. The toes are connected by webs. The general colour of the body is a deep brown.

SYNONYMS. *Lutra vulgaris*. *Shaw*.—*Mustela lutra*. *Linnaeus*.—*Le Loutre*. *Buffon*.—*Greater Otter*. *Pennant*.—*Bingley's Brit. Quad.* Pl. 17.

in the bank of a river or brook, in the immediate neighbourhood of which he can be furnished with a plentiful supply of food. In forming his habitation, this animal exhibits great sagacity. He burrows underground in the bank, and always makes the entrance of his hole under water, working upward towards the surface of the earth; and, before he reaches the top, he provides several *holls*, or lodges, that in case of high floods he may have a retreat, and then makes a minute orifice for the admission of air. It is further observed, that, the more effectually to conceal his retreat, he contrives to make this little air-hole in the midst of some thick bush.

In some parts of North America, Otters are seen in winter at a distance from any apparent open water, both in woods and on plains; but it is not known what leads them to such situations. If pursued, when among the woods where the snow is light and deep, they immediately dive, and make considerable way under it; but they are easily traced by the motion of the snow above them, and soon overtaken. The Indians track them in the snow, and with clubs kill great numbers of them.

These creatures are sometimes frolicsome and playful: and one of their favourite pastimes is, to get on a high ridge of snow, bend their fore-feet backward, and slide down the side of it, sometimes to the distance of twenty yards or upwards.

Otters, though naturally of a ferocious disposition, may, if taken young and properly educated, be completely tamed. The training of them, however, requires both assiduity and perseverance: but their activity and use, when taught, sufficiently repay this trouble; and few animals are more beneficial to their masters. The usual method is first to teach them to fetch, in the same way as dogs are taught; but, as they are not so docile as the dog, so it requires more art and experience to instruct them. They are first taught to take in their mouths a truss made of leather, and stuffed with wool,

of the shape of a fish; to drop it at a word of command; to run after it when thrown forward, and to bring it to their master. Real fish are next employed; which are thrown dead into the water, and which they are taught to fetch. From dead fish they are led to living ones, till at last they are perfectly instructed in the whole art of fishing. An Otter thus educated is a very valuable animal; he will catch fish enough to sustain not only himself but a whole family. "I have seen (says Dr. Goldsmith) an Otter go to a gentleman's pond at the word of command, drive the fish into a corner, and, seizing upon the largest of the whole, bring it off, and give it to his master."

We are informed, in Mr. Bewick's History of Quadrupeds, that a person of the name of Collins, who lived at Kilmerston, near Wooler, in Northumberland, had a tame Otter, which followed him wherever he went. He frequently took it to fish in the river; and, when satiated, it never failed to return to him. One day, in the absence of Collins, the Otter, being taken out to fish by his son, instead of returning as usual, refused to come at the accustomed call, and was lost. The father tried every means in his power to recover the animal, and, after several days' search, being near the place where his son had lost it, and calling it by name, to his inexpressible joy it came creeping to his feet, and showed many marks of affection and attachment.

Some years ago, James Campbell, near Inverness, had a young Otter, which he brought up and tamed. It would follow him wherever he chose; and, if called by its name, would immediately obey. When apprehensive of danger from dogs, it sought the protection of its master, and would endeavour to spring into his arms for security. It was frequently employed in catching fish, and would sometimes catch eight or ten salmon in a day. If not prevented, it always made an attempt to break the fish behind the fin next the tail. When tired, it would refuse to fish any longer, and was then rewarded with as much as it could devour. Hav-

ing satisfied its appetite, it always coiled itself round, and fell asleep; in which state it was generally carried home. The same Otter fished both in the sea and in fresh water.

Another person who kept a tame Otter, suffered it to follow him with his dogs. It was very useful to him, by going into the water, and driving trout and other fish towards his net. It was remarkable, that dogs accustomed to Otter-hunting were so far from giving it the least molestation, that they would not even hunt any Otter while this remained with them.

In a wild state, when an Otter has caught a fish, he immediately drags it ashore, and devours the head and upper parts, leaving the remainder of the body; and when domesticated, he will eat no fish except such as are perfectly fresh; but will prefer bread, milk, &c. This animal generally hunts against the stream; and, when several Otters are fishing at the same time, they are frequently heard to utter a sort of loud whistle to each other, as if by way of signal. When two of them (as sometimes happens) are hunting a salmon, one stations itself above, and the other below the place where the fish is; and they continue to chase it, till becoming perfectly wearied out, it surrenders itself a quiet prey. The Otter, when it hunts singly, has two modes of taking its prey. The first is by pursuing it from the bottom upward: this is principally done with the larger fish; whose eyes being placed so as not to see under them, the animal attacks them by surprise from below, and seizing them by the belly, drags them away. The other mode is by hunting them into some corner of a pond or lake, and there seizing them. The latter, however, can only be practised in water where there is no current, and on the smaller fish; for it would be impossible to force the large ones out of deep water.

Female Otters produce four or five young-ones at a birth, and these in the spring of the year. Where there have been ponds near a gentleman's house, instances

have occurred of their littering in cellars or drains. The male utters no noise when taken, but the females sometimes emit a shrill squeak.

Otters are generally caught in traps placed near their landing-places, and carefully concealed in the sand. When hunted by dogs, the old ones defend themselves with great obstinacy. They bite severely, and do not readily quit their hold.

In the northern parts of America, these animals change their colour in winter to white, like most of the other Arctic animals; and it is not till late in the spring that they resume their brown summer dress.

The flesh of the Otter is exceedingly rank and fishy; so much so, that the Romish church permit the use of it as food on maigre-days. In the kitchen of the Carthusian convent near Dijon, Mr. Pennant saw one of these animals cooked for the dinner of the religious of that rigid order; who by their rules are prohibited, during their whole lives, the eating of flesh.

THE OTTER SEA OTTER*.

In their general habits of life these animals are harmless and inoffensive; and, towards their offspring they exhibit a degree of attachment which is extremely interesting. They will never desert them; they will even starve themselves to death on being robbed of them, and strive to breathe their last on the spot where their

* DESCRIPTION. The whole length of the Sea Otter is generally about four feet, of which the tail occupies thirteen inches. The fur is soft, and of a deep glossy black colour. The ears are small and erect, and the whiskers long and white. The legs are short and thick, the hinder ones somewhat resembling those of a seal. The weight of the largest Sea Otters is from seventy to eighty pounds.

SYNONYMS. *Lutra marina*. Shaw.—*Mustela Lutris*.—Linn.
—Sea Otter. Pennant.—Shaw's Gen. Zool. Pl. 101.—Brew. Quad. p. 491.

young-ones have been destroyed. The Sea Otters live in pairs, and are very constant to each other. They often carry their young-ones between their teeth, and fondle them, frequently flinging them up and catching them again in their paws. Before these can swim, the parents will take them in their fore-feet, and swim about with them upon their backs.

Sea Otters swim sometimes on their sides; and at other times on their backs, or in an upright position. They are very sportive, embrace each other, and seem to kiss. When attacked, they make no resistance, but endeavour to save themselves by flight: if, however, they be closely pursued, and can see no means of escape, they scold and grin like an angry cat. On receiving a blow they lie on their side, draw up their hind-legs together, cover their eyes with their fore-paws, and thus seem to prepare themselves for death. But if they are fortunate enough to escape their pursuer, and reach the sea, they deride him with various diverting tricks; at one time swimming upright in the water, and jumping over the waves, holding their fore-paws over their eyes, as if to shade them from the sun while looking out for their enemy; then lying flat on their backs; and afterwards throwing their young-ones down into the water and fetching them up again.

The skins of Sea Otters are of great value, and have long formed a considerable article of export from Russia. They are sold to the Chinese at the rate of eighty or a hundred rubles each. The trade for this fur at Nootka had, not many years ago, nearly produced a war between Great Britain and Spain.

These animals are found on the coast of Kamtschatka, and in the adjacent islands, as well as on the opposite coasts of America; but they are confined within a very few degrees of latitude.

OF THE BEAR TRIBE*.

The Bears are animals, for the most part, of large size, and great muscular powers. They are seldom found in any other than mountainous or thinly-inhabited countries. During the winter, several of the species lie concealed in holes in the ground, and in a torpid state.

Some of the species are able to use their fore-feet as hands, in conveying food to their mouth, or in seizing hold of objects. From the length and sharpness of their claws, huge and unwieldy as they may seem, these animals are able to climb trees in search of prey, or to escape the pursuit of their enemies.

THE COMMON BEAR †.

The Bear is a savage and solitary animal, that lives in the most retired and unfrequented parts of the forests. He passes the greatest part of the winter in his den, in a state of repose and abstinence. During this period it is that the females bring forth their young-ones, which are generally two in number. When these animals retire into their places of concealment, they are always fat and in high condition; and when they make their first appearance in the spring, they are, on the contrary, excessively lean and emaciated. In consequence of this, a general, though absurd notion

* The Bears have six front teeth in each jaw. The two lateral ones of the lower jaw are longer than the rest, and lobed with smaller or secondary teeth at their internal bases. There are five or six grinders on each side; and the canine teeth are solitary. The tongue is smooth, and the snout prominent. The eyes are furnished with a nictitating or winking membrane.

† See Plate vi. Fig. 2.

SYNONYMS. *Ursus Arctos*. Linn.—Ours. Buffon.—Common or Brown Bear. Penn.—Shaw's Gen. Zool. Pl. 102.—Bew. Quad. p. 288.

prevails, that they are enabled to live through the winter by sucking their paws.

The Common Bears, which are not only inhabitants of Europe, but of various parts of the East Indies, vary much in colour. Some are brown, others black, and others gray. The Brown kinds live chiefly on vegetables; and the Black ones, in a great measure, on animal food, such as lambs, kids, and even cattle. We are informed that the Black Bears are so remarkably attached to each other, that the hunters never dare to fire at a young-one, while the parent is on the spot; for, if the cub happen to be killed, she becomes so enraged, that she will either avenge herself, or die in the attempt. If, on the contrary, the mother should be shot, the cubs will continue by her side long after she is dead, exhibiting the most poignant affliction. A few years ago, in Hungary, a man had nearly lost his life, by firing at a young Bear in the presence of its mother; for she ran at him, and by one blow with her paw, brought off great part of his scalp.

Bears are so numerous at Kamtschatka, that they are often seen roaming about the plains in great companies; and they would infallibly have long since exterminated all the inhabitants, were they not here much more tame and gentle than the generality of their species are in other parts of the world. In spring, they descend in multitudes from the mountains to the mouths of the rivers, for the purpose of catching fish. If there be plenty of this food, they eat nothing but the heads of the fish; and when, at any time, they find the fishermen's nets, they dexterously drag them out of the water, and empty them of their contents.

When a Kamtschadale espies a Bear, he endeavours to conciliate its friendship at a distance, accompanying his gestures by courteous words. The Bears are indeed so familiar here, that the women and girls, when gathering roots and herbs, or turf for fuel, in the midst of a whole drove of these animals, are never disturbed by them in their employment; and if any of the Bears come

up to them, it is only to eat something out of their hands. They have never been known to attack a man, except when suddenly roused from sleep. This humane character of the Kamtschadale Bear, procures him, however, no exemption from the persecutions of mankind. His great utility is a sufficient instigation to the avarice of man, to declare eternal war against him. Armed with a spear or club, the Kamtschadale goes in quest of the peaceful animal, in his retreat; who, meditating no attack, and intent only on defence, gravely takes the faggots which his persecutor presents to him, and, with them, himself chokes up the entrance to his den. The mouth of the cavern being thus closed, the hunter breaks a hole through the top, from which he transfixes his defenceless foe.

The modes that are adopted by the inhabitants of different countries, for the taking or destroying of Bears, are very various. Of these, the following appear to be the most remarkable. In consequence of the well-known partiality of these animals for honey, the Russians sometimes fix to those trees where bees are hived, a heavy log of wood, at the end of a long string. When the unwieldy creature climbs up to get at the hive, he finds himself interrupted by the log; he pushes it aside, and attempts to pass it; but, in returning, it hits him such a blow, that in a rage he flings it from him with greater force, which makes it return with increased violence; and he sometimes continues this, till he is either killed, or falls from the tree.

It would be difficult to name a species of animals, except the sheep, so variously serviceable to man after its death, as the Bear is to the inhabitants of Kamtschatka. Of the skin they make beds, covertures, caps and gloves, and collars for their sledge-dogs. Those who go upon the ice for the capture of marine animals, make their shoe-soles of the same substance, which thus never slip upon the ice. The fat of the Bear is held in great estimation, as a savoury and wholesome food, and,

when rendered fluid by heat, it supplies the place of oil. The flesh is esteemed a great delicacy. The intestines, when cleansed and properly scraped, are worn by the *fair sex*, as masks to preserve their faces from the effects of the sun-beams; which here, being reflected from the snow, are otherwise found to blacken the skin. The Russians of Kamtschatka make of these intestines window-panes, which are as clear and transparent as those made of Muscovy-glass. Of the shoulder-blades are made sickles for cutting grass; and the heads and haunches are hung up by these people, as ornaments or trophies, on the trees around their dwellings.

The Kamtschadales also owe infinite obligations to the Bears, for the little progress they have hitherto made, as well in the sciences, as even in the *polite arts*. They confess themselves indebted to these animals for all their knowledge of physic and surgery: by observing what herbs the Bears apply to the wounds they have received, and what methods they pursue when languid and disordered, this people have acquired a knowledge of most of those simples to which they have recourse, either as external or internal applications. But the most singular circumstance of all is, that they admit the Bears to be their *dancing-masters*; and, in what they call the *Bear-dance*, every gesture and attitude of these animals is so faithfully portrayed, as to afford sufficient indications to whom they are indebted for this acquirement. All their other dances, in many particulars, are similar to the Bear-dance; and those attitudes are considered to approach nearest to perfection, which most resemble the motions of the Bear.

If the uses of the Bear be so various to the Kamtschadales, not less general is that of his fine and warm fur to persons of the higher classes in Russia. A light black Bear-skin is one of the most comfortable and costly articles in the winter wardrobe of a man of fashion, at Petersburg or Moscow.

It is well known that the Bear, though not without difficulty, may be rendered tame and docile; and he has then, at least, the appearance of being mild and obedient to his master. He may be taught to perform various tricks, to entertain the multitude; but great cruelties are practised on the wretched beast, in training him for the purpose of this absurd exhibition.

In the supplementary writings of M. de Buffon, and the notes of M. Sonnini, there is an interesting account of some Bears that were brought up in a semi-domestic state at Berne, in Switzerland. The animals were kept in large square places, dug out of the earth, and lined at the sides and the bottom with stones. Dens of masonry were formed in them, under the ground of the sides, having their pavement on a level with that of the open space. These dens were each divided by a wall, and an iron grate, the latter of which was let down from above. In the middle of each square there was left in the pavement, a hole sufficiently large to admit a tree of considerable size being placed upright in it. There was likewise, in each square, a large trough filled with fresh water.

It was in 1740, that two Bears, very young, were first brought here from Savoy. When these animals had been here about six years, the female began to produce young-ones. At the first litter, she had only one; and afterwards she produced from one to three, but never more than this number. When first produced, although they were by no means ugly animals, they were very unlike their parents both in shape and colour. Their body was nearly round, and their snout somewhat sharp-pointed: they were of a yellow colour with a white neck. They continued blind for four weeks. At first they were about eight inches long from the muzzle to the base of the tail: by the end of three months, they measured fourteen or fifteen inches; and their hair was then about an inch long. Before they were full grown, they cast all their white and yellow hair, and assumed a perfectly brown coat.

The squares in which these animals were first kept, having been in the middle of the town, it was found necessary to fill them up, and to place the Bears in others that were made between the ramparts. The above-mentioned two animals were consequently separated, whilst they were conveyed into their new apartment. When they again met, they appeared in raptures; they raised themselves upright, and embraced each other with the greatest delight.

These animals were very fond of climbing into their tree, which was a green larch, placed there every year in the month of May. They would frequently amuse themselves by breaking pieces off the branches, particularly after the tree was newly planted. Their food was generally rye-bread, cut into large pieces, and soaked in warm water. They were also fond of fruit; and whenever the country people, which was sometimes the case, brought unripe fruit to the market, the officers of the police had orders to seize such, and throw it to the Bears. The animals, however, seemed on the whole to prefer greens and other esculent vegetables to most kinds of food.

Two of the Bears that had been brought up in one of the open squares at Berne, were carried into France, and placed in one of the narrow lodges in the Menagerie of the Museum at Paris, where they had scarcely space enough to turn themselves round. The animals, thus cooped up, were fed on bread, fruit, and vegetables; but they appeared to suffer much from the confined space, which till then they had been entirely unused to. When they were first brought to this menagerie, it was found very difficult to make them leave the cage in which they had been carried. They obstinately persisted in remaining there. To no purpose were various forcible means attempted; and in vain were numerous living animals placed before them, in the hope of enticing them out. They continued immovable; and it was not till after many hours of use-

less trial, that a living duck, placed at a little distance, tempted them to come forth.

The natural disposition of these Bears was gross; but they were by no means either mischievous or savage animals. They knew the voice of their keeper; and, at all times, showed sufficient docility and obedience to his commands.

THE AMERICAN BEAR *.

In several of the northern districts of America these Bears are found in considerable numbers; occasionally migrating southward in quest of food. They usually arrive in Louisiana, about the end of autumn, driven thither by the snows of the more northern climates. At this time they are always very lean; as they do not leave the north until the ground is covered with snow.

In the country near the Mississippi, the Bears seldom venture to any great distance from the banks of that river; but on each side, they have in winter such beaten paths, that persons unacquainted with them would mistake these for the tracks of men. M. du Pratz, when at a distance of nearly two hundred miles from any human dwelling, was for a while deceived by a bear's track: he thought that thousands of men must have walked along it bare-footed. Upon inspection, however, he found that the prints of the feet were shorter than those of a man, and that at the end of each toe there was the impression of a claw. "It is proper (he says) to observe, that in those paths the Bear does not pique himself upon politeness, and will yield the way to

* **DESCRIPTION.** The American Bear differs from the European species, principally in being smaller; and in having a more lengthened head, more pointed nose, and longer ears. The hair is also more smooth, black, soft, and glossy. The cheeks and throat are of a yellowish-brown colour.

SYNONYMS. *Ursus Americanus.* *Linnaeus.*—*Ours noir* de l'Amérique. *Byfson.*—Black Bear. *Pennant.*

nobody; therefore, it is prudent for a traveller not to fall out with him for such a trifling affair."

About the end of December, from the abundance of fruits they find in Louisiana and the neighbouring countries, the Bears become so fat and lazy that they can scarcely run. At this time they are hunted by the American Indians. The nature of the chase is generally this: the Bear chiefly adopts for his retreat the hollow trunk of an old cypress-tree; which he climbs, and then descends into the cavity from above. The hunter, whose business it is to watch him into this retreat, climbs a neighbouring tree, and seats himself opposite to the hole. In one hand he holds his gun; and in the other a torch, which he darts into the cavity. Frantic with rage and terror, the Bear makes a spring from his station; but the hunter seizes the instant of his appearance, and shoots him.

The pursuit of these animals is a matter of the first importance to some of the Indian tribes, and is never undertaken without much ceremony. A principal warrior gives a general invitation to all the hunters. This is followed by a strict fast of eight days, in which they totally abstain from food; but during which, the day is passed in continual song. This is done to invoke the spirits of the woods to direct the hunters to the places where there are abundance of Bears. They even cut the flesh in divers part of their bodies, to render the spirits more propitious. They also address themselves to the manes of the beasts slain in the preceding chases, and implore these to direct them in their dreams to an abundance of game. The chief of the hunt now gives a great feast, at which no one dares to appear without first bathing. At this entertainment, contrary to their usual custom, they eat with great moderation. The master of the feast touches nothing; but is employed in relating to the guests ancient tales of feats in former chases; and fresh invocations to the manes of the deceased Bears conclude the whole.

They then sally forth, equipped as if for war, and

painted black; and they proceed on their way in a direct line, not allowing rivers, marshes, nor any other impediments to stop their course, and driving before them all the beasts they find. When they arrive at the hunting-ground, they surround as large a space as they can; and then contract their circle, searching at the same time every hollow tree, and every place capable of being the retreat of a Bear: and they continue the same practice till the chase is expired.

As soon as a Bear is killed, a hunter puts into his mouth a lighted pipe of tobacco, and blowing into it, fills the throat with the smoke, conjuring the spirit of the animal not to resent what they are about to do to its body, nor to render their future chases unsuccessful. As the beast makes no reply, they cut out the string of the tongue, and throw it into the fire. If it crackle and shrivel up, (which it is almost sure to do,) they accept this as a good omen; if not, they consider that the spirit of the beast is not appeased, and that the chase of the next year will be unfortunate.

The flesh of the American Bear is said to taste like pork. Dr. Brickell ate some at a planter's house in North Carolina, and mistook it for excellent pork; but such are the prejudices to which mankind are subject, that the next day, being undeceived, and invited to partake of a similar dish, he felt so much disgust, that he was not able to taste it.

THE WHITE, OR POLAR BEAR*.

The immense numbers of these animals, in the polar regions, are truly astonishing. They are not only seen on the land, but often on ice-floats several leagues at sea. They are sometimes transported in this manner

* See Plate v. Fig. 3.

DESCRIPTION. The length of this animal is sometimes nearly twelve feet. It differs from the Common Bear in having its head and neck of a more lengthened form, and the body

to the very shores of Iceland; where they no sooner land, than all the natives are in arms to receive them. It occasionally happens, that when a Greenlander and his wife are paddling out at sea, by coming too near an ice-float, a White Bear unexpectedly jumps into their boat; and if he does not overset it, sits calmly where he first alighted, and like a passenger suffers himself to be rowed along. It is probable that the Greenlander is never very fond of his unwieldy guest: however, he makes a virtue of necessity, and hospitably rows him to shore.

The Polar Bears are animals of tremendous ferocity. Barentz, in his voyage in search of a North East Passage to China, had the most horrid proofs of their ferocity in the island of Nova Zembla: they attacked his seamen, seizing them in their mouths, carrying them off with the utmost ease, and devouring them even in the sight of their comrades.

Not many years ago, the crew of a boat belonging to a ship in the Whale-fishery shot at a Bear at a little distance, and wounded it. The animal immediately set up a dreadful howl, and ran along the ice towards the boat. Before he reached it, a second shot was fired, which hit him. This served but to increase his fury. He presently swam to the boat, and, in attempting to get on board, placed one of his fore feet upon the gunnel; but a sailor, having a hatchet in his hand, cut it off. The animal, however, still continued to swim after them till they arrived at the ship; and several shots were fired at him, which took effect: but on reaching the ship, he immediately ascended the deck; and the crew,

longer in proportion to its bulk. The ears and eyes are small; and the teeth extremely large. The hair is long, coarse, and white; and its limbs of great strength. The tips of the nose and claws are perfectly black.

SYNONYMS. *Ursus maritimus*. Linn.—White Bear. *Var.*—White Sea Bear. *Martens.*—Ours blanc. *Buffon.*—Polar Bear. *Penn.*—*Shaw's Gen. Zool. Pl.* 103.—*Bew. Quad. p.* 295.

having fled into the shrouds, he was pursuing them thither, when a shot laid him dead upon the deck.

The usual food of these animals consists of seals, fish, and the carcasses of whales; but when on land they prey on deer and other animals. They likewise eat various kinds of berries, which they happen to find. The following story of the sagacity of these animals in searching for prey, is inserted from the works of the Hon. Robert Boyle: "An old sea captain told me that the White Bears in or about Greenland, notwithstanding the coldness of the climate, have an excellent nose; and that sometimes, when the fishermen had dismissed the carcass of a whale, and left it floating on the waves, three or four leagues from the shore, whence it could not be seen, these animals would stand as near the water as they could, and raising themselves on their hind legs, would loudly snuff in the air, and, with the paws of their fore-legs, drive it as it were against their snouts; and when they were satisfied whence the odour came, would cast themselves into the sea, and swim directly towards the whale."

During the summer, these animals reside chiefly on the ice-islands; and frequently swim from one to another. They lodge in dens formed in the vast masses of ice; and on these they breed, producing about two young-ones at a birth. About the end of March they bring these out, and immediately bend their course towards the sea.

When the masses of ice are detached by strong winds or currents, the Bears often allow themselves to be carried along with them; and as they can neither regain the land, nor abandon the ice on which they are embarked, they often perish in the open sea.

The affection between the parent and the young is so great, that they will sooner die than desert each other in distress. "While the Carcase Frigate, which went out some years ago to make discoveries towards the North Pole, was locked in the ice, early one morning the man at the mast-head gave notice that three Bears

were making their way very fast over the frozen ocean, and were directing their course towards the ship. They had, no doubt, been invited by the scent of some blubber of a walrus that the crew had killed a few days before; which had been set on fire, and was burning on the ice at the time of their approach. They proved to be a she Bear and her two cubs; but the cubs were nearly as large as the dam. They ran eagerly to the fire, and drew out of the flames part of the flesh of the walrus, that remained unconsumed, and ate it voraciously. The crew from the ship threw upon the ice great lumps of the flesh of the sea-horse, which they had still remaining. These the old Bear fetched away singly, laid every lump before her cubs as she brought it, and dividing it, gave to each a share, reserving but a small portion to herself. As she was fetching away the last piece, the sailors levelled their muskets at the cubs, and shot them both dead; and in her retreat they wounded the dam, but not mortally. It would have drawn tears of pity from any but unfeeling minds, to have marked the affectionate concern expressed by this poor beast in the last moments of her expiring young-ones. Though she was herself dreadfully wounded, and could but just crawl to the place where they lay, she carried the lump of flesh she had fetched away, as she had done others before, tore it in pieces, and laid it before them; and, when she saw that they refused to eat, she laid her paws first upon one, and then upon the other, and endeavoured to raise them up: all this while it was pitiful to hear her moan. When she found she could not stir them, she went off, and when she had got to some distance, she looked back and moaned. Finding this to no purpose, she returned, and, smelling round them, began to lick their wounds. She went off a second time as before; and, having crawled a few paces, looked again behind her, and for some time stood moaning. But still her cubs not rising to follow her, she returned to them again; and, with signs of inexpressible fondness, went round, pawing them and

meaning. Finding at last that they were cold and lifeless, she raised her head towards the ship, and uttered a growl of despair, which the murderers returned with a volley of musket-balls. She fell between her cubs, and died licking their wounds."

Mr. Hearne says that the males of this species are, at a certain time of the year, so much attached to their mates, that he has often seen one of them, when a female was killed, come and put his paws over her, and in this position suffer himself to be shot rather than quit her.

During the winter these animals retire and bed themselves deep in the snow, or under the fixed ice of some eminence; and here they pass, in a state of torpidity, the long and dismal Arctic night, and reappear only with the return of the sun.

The Polar Bear has a great dread of heat. An animal of this species described by Professor Pallas, would not stay in its house in the winter, although at Krasnojarsk in Siberia, where the climate is very cold; and it seemed to experience great pleasure in rolling itself on the snow. A Polar Bear that was kept in the Museum of Natural History in Paris, suffered excessively during the hot weather. The keepers, throughout the year, were obliged to throw upon it sixty or seventy pails of water a-day, to refresh it. This animal was fed only with bread, of which it daily consumed no more than about six pounds, notwithstanding which it became very fat. It is not known to what age these animals live.

White Bears are sometimes found in Iceland; but not being natives of that island, they are supposed to float thither from the opposite coast of Greenland, on some of the huge masses of ice that are detached from those shores. After so long an abstinence as they must necessarily undergo in the voyage, they are reduced by hunger to attack even men, if they should come in their way. But Mr. Horrebow informs us,

that the natives are alway able to escape their fury, if they can only throw in their way something to amuse them. A glove (he says) is sufficient for this purpose; for the Bear will not stir till he has turned every finger of it inside out; and, as these animals are not very dexterous with their paws, this takes up some time, and in the mean while the person makes his escape.

THE GLUTTON*.

The most remarkable circumstance relative to the economy of these animals, is the stratagem which they adopt for the purpose of alluring and seizing upon their prey. We are informed that they climb into trees in the neighbourhood of herds of deer, and carry along with them a considerable quantity of a kind of moss to which the deer are partial. As soon as any of the herd happens to approach the tree, the Glutton throws down the moss. If the deer stop to eat, the Glutton instantly darts upon its back; and, after fixing himself firmly between the horns, tears out its eyes: which torments the animal to such a degree, that either to end its torments, or to get rid of its cruel enemy, it strikes its head against the trees till it falls down dead. The Glutton divides the flesh of the deer into convenient portions, and conceals them in the earth for future provisions. When the voracious animal has once firmly fixed himself by the claws and teeth, it is impossible to remove him. In vain does the unfortunate stag seek for safety in flight: and if it do not kill itself, its enemy

* DESCRIPTION. The length of the Glutton is three feet; exclusive of the tail, which measures about one foot. The top of the head, and the whole of the back, as well as the muzzle and feet, are of a blackish brown colour. The sides are dusky, and the tail is the colour of the body.

SYNONYMS. *Ursus Gulo*. *Linnaeus*.—*Vielfrass*, *Jarf*, *Jöer-ven*. *Genberg*.—*Glouton*. *Buffon*.—*Glutton*. *Penn.*—*Shaw's Gen. Zool. Pl.* 104.

soon brings it to the ground by sucking its blood, and gradually devouring its body.

Gluttons feed also on hares, mice, birds, and even on putrid flesh; and it is absurdly asserted by the Norwegians, that they carry their voracity to such an extent, as to be obliged to relieve themselves by squeezing their over-swollen bodies between two trees. If this creature seize a carcass, even bigger than himself, he will not desist from eating so long as there is a mouthful left.

When the Glutton is attacked, he makes a stout resistance; for, with his teeth, he will tear even the stock from a gun, or break in pieces the trap in which he is caught. Notwithstanding this, he is capable of being rendered tame, and of learning many entertaining tricks.

In a state of nature, he suffers men to approach him without exhibiting the least signs of fear, and even without any apparent wish to avoid them. This may be the effect of living in desert countries; generally out of the sight, and removed from the attacks of man.

The Glutton is hunted for the sake of his skin, which is very valuable. The Kamtschadales so much esteem it, that they say the heavenly Beings wear garments made of no other fur than this; and they would describe a man as most richly attired, if he had on the skin of a Glutton. The women ornament their hair with the white paws of this animal, which they esteem an elegant addition to their dress.

Gluttons are found in all the countries bordering upon the northern ocean. They are also natives of various parts of Canada, and of the country around Hudson's Bay.

THE WOLVERINE*.

The pace of these animals is very slow; but their sagacity, strength, and acute scent, make to them

* DESCRIPTION. The Wolverine resembles the Wolf in size, and the Glutton in the figure of its head. Both the

ample amends for this defect. They burrow in the ground; and are said to be extremely fierce and savage. They are also possessed of great courage and resolution. A Wolverine has been known to seize on a deer that an Indian had killed; and though the Indian advanced within twenty yards, he still refused to abandon his capture, and even suffered himself to be shot upon the body of the fallen animal. Wolverines have also been known to take a deer from a wolf, before the latter had time to begin his repast after killing it. Indeed, their amazing strength, and the length and sharpness of their claws, render them capable of making a formidable resistance against every animal of their own country.

As a proof of their surprising strength, it is related that, some years ago, there was a Wolverine at Churchill, on Hudson's Bay, that overset the greatest part of a pile of wood which measured upwards of seventy yards round, and contained a whole winter's firing: this he did, to get at some provisions that had been hidden there by the Company's servants, when going to the factory to spend the Christmas holidays. This animal had, for several weeks, been observed lurking about the neighbourhood of their tent; and had committed many depredations on the game caught in their traps and snares, and eaten many of the foxes that had been killed by guns set for the purpose, but he was too cunning to be caught. The people thought they had adopted an effectual mode of securing their provisions, by tying them up in bundles, and placing these on the

upper and under parts of the body are of a reddish brown colour: the sides are yellowish brown; and a band of this colour crosses the back near the tail, which is long and of a chesnut colour. The face is black. The legs are strong, thick, short, and black; and the soles of the feet are covered with hair.

These animals are not uncommon in the northern regions of America.

SYNONYMS. *Ursus Luscus*. *Linnaeus*.—Quickhatch. *Edwards*.—Wolverine. *Pennant*.—*Shaw's Gen. Zool. Pl.* 106.

top of the wood pile. They did not imagine that the Wolverine would even have found out where they were; much less that he could have got at them if he had discovered them. To their astonishment, however, when they returned, they found the greatest part of the pile overthrown. The wood was very much scattered about; and it was imagined, that in the animal's attempting to carry off his booty, some of the provisions had fallen down into the heart of the pile, and that rather than lose half his prize, he had been at the trouble of doing this. The bags of flour, oatmeal, and peas, though of no use to him, he had torn to pieces, and their contents were found scattered about on the snow; but every bit of animal food, consisting of beef, pork, bacon, venison, salted geese, and partridges, he had either eaten or carried away.

THE RACCOON*.

The Raccoon is a native of North America, and of several of the West India islands, where it inhabits the hollows of trees. Its food consists principally of maize, sugar-canes, and various kinds of fruit. It is also supposed to devour birds, and their eggs. When near the shores, these animals live much on shell-fish, and particularly on oysters. We are told that they will watch the opening of the shell, dexterously put in their paw, and tear out the contents: sometimes, however,

* DESCRIPTION. The colour of this animal is gray; and its head is shaped somewhat like that of a fox. The face is white; and the eyes, which are large, are surrounded by a black band, from which a dusky stripe runs along the nose. The tail is very bushy, and is annulated with black. The back is somewhat arched; and the fore-legs are shorter than the others. The length of the Raccoon is about two feet, from the nose to the tail; and the tail is about a foot long.

SYNONYMS. *Ursus Lotor.* *Linnaeus.*—*Mapach.* *Var.*—*Le Raton.* *Buffon.*—*Raccoon.* *Penn.*—*Shaw's Gen. Zool.* *Pl.* 105. —*Bew. Quad.* *p.* 279.

the oyster suddenly closes, catches the thief, and detains him till he is drowned by the return of the tide. They feed likewise on crabs, in the taking of which they exhibit much cunning. Brickell, who relates these circumstances, says, that the Raccoon will stand by the side of a swamp, and hang its tail into the water: that the Crabs, mistaking this for food, lay hold of it, and as soon as the beast feels them pinch, he pulls them out with a sudden jerk, and devours them. A species of land-crab, found in holes of the sand in North Carolina, are frequently the food of the Raccoon. He catches them by putting one of his fore-paws into the ground, and hauling them out.

The Raccoon is an active and sprightly animal, but has a singularly oblique gait in walking. His sharp claws enable him to climb trees with great facility, and he ventures to run even to the extremities of the branches. He is easily tamed, and is then good-natured and sportive; but is almost constantly in motion, and is as mischievous as a monkey. He sits upright to eat, and carries food to his mouth in his paws. He feeds chiefly by night, and sleeps during the greatest part of the day.

M. Blanquart des Salines had a Raccoon, of which he gave to M. de Buffon the following particulars:—Before it came into his possession it had always been chained. In this state of captivity it was very gentle, but exhibited little attachment to any one. The chain of this Raccoon was sometimes broken, and on such occasions liberty rendered him insolent. He took possession of an apartment, which he would allow none to enter; and it was with some difficulty that he could again be reconciled to bondage. When permitted to be loosed from confinement, however, he would express his gratitude by a thousand caressing gambols. But this was by no means the case when he effected his own escape. He would then roam about, sometimes for three or four days together, upon the roofs of the neighbouring houses; descend, during the night, into the

court-yards; enter the hen-roosts, strangle all the poultry, and eat only their heads. His chain rendered him more circumspect, but by no means less cruel. When he was in confinement, he employed every artifice to make the fowls grow familiar with him: he permitted them to partake of his victuals; and it was only after having inspired them with the greatest notions of security, that he would occasionally venture to seize one of them, and tear it in pieces. Some young cats met with a similar fate.

He used to open oysters with wonderful dexterity. His sense of touch was exquisite; for, in all his operations, he seldom used either his nose or his eye. He would pass an oyster under his hind paws; then, without looking at it, search with his fore paws for the weakest part; there, sinking his claws, he would separate the shells, and leave not a vestige of the fish. Whatever dry food he ate, he used (as indeed the whole species do) to soften, or rather dilute, in water, by immersing it in the vessel that contained the water given for him to drink.

He was extremely sensible of ill-treatment. A servant, one day, gave him several lashes with a whip; and the man could never afterwards accomplish a reconciliation. Neither eggs, nor fish, of which he was exceedingly fond, could appease his resentment. At the approach of this servant, he always flew into a rage; his eyes kindled, he endeavoured to spring at the man, uttered the most dolorous cries, and rejected every thing that was presented to him, till the man went away. This animal disliked children; their crying irritated him, and he made every effort to spring upon them. A small dog, of which he was fond, he chastised severely when it barked too loud.

According to Linnæus, the Raccoon has a great antipathy to hog's bristles, and is much disturbed at the sight of a brush. The female produces two young-ones at a birth, which commonly takes place about the month of May.

This animal is hunted for the sake of his fur; which is used by the hatters, and is considered as next in value to that of the beaver: it is used also in linings for garments. The skins, when properly dressed, are made into gloves, and upper-leathers for shoes. The Negroes frequently eat the flesh of the Raccoon, and are very fond of it.

THE BADGER*.

Although in itself a harmless and inoffensive animal, living principally on roots, fruit, and other vegetable food, the Badger has been furnished with such weapons, that few creatures can attack it with impunity. The address and courage with which this animal defends himself against beasts of prey, have caused him to be frequently baited with dogs, as a popular amusement. Though naturally of an indolent disposition, he now exerts the most vigorous efforts, and frequently inflicts desperate wounds on his adversaries. The skin is so thick and loose, as not only to resist the impressions of the teeth, but also to suffer him, even when within their gripe, to turn round and bite them in their most tender parts. In this manner does he resist repeated attacks, both of men and dogs, from all quarters; till, over-

* DESCRIPTION. The general length of the Badger is about two feet and a half; and of the tail, six inches. Its body and legs are thick. The eyes and ears are small; and the claws of the fore-legs long and straight. This animal is of a uniform gray colour above, and on the under parts entirely black. The face is white; and along each side of the head runs a black pyramidal stripe, which includes the eyes and ears. The hair is coarse, and the teeth and claws are peculiarly strong.

The Badger is not only well known in England, but is occasionally found in all the temperate parts of Europe.

SYNONYMS. *Ursus Meles*. *Linnaeus*.—Common Badger. *Penn.*—Brock.—*Blaireu*. *Buffon*.—*Bingley's Mem. of Brit. Quad. Pl.* 18.

powered with numbers, and enfeebled by wounds, he is at last compelled to submit.

The Badger inhabits woody places, the clefts of rocks, or burrows which he forms under the ground. He is a very cleanly animal, and keeps his subterranean mansion exceedingly neat. He continues in his habitation during the day, and does not make his appearance abroad till the evening. At times, from indulging in indolence and sleep, he becomes excessively fat. During the severe weather of winter he remains in a torpid state in his den, sleeping on a commodious bed formed of dried grass. Under the tail there is a receptacle, in which is secreted a white fetid substance, that constantly exudes through the orifice, and thus gives him a most unpleasant smell.

These animals are not known to do any other mischief to mankind, than by scratching and rooting up the ground, in search of food. This is always performed during the night; and from this arises one of the modes usually practised of taking them. Their den is discovered; and when they are abroad in the night, a sack is fastened at the mouth. One person remains near the hole to watch; while another beats round the fields with a dog, in order to drive them home. As soon as the man at the hole hears that a Badger has run in for refuge, he immediately seizes the mouth of the sack, ties it, and carries it off. Sometimes these animals are caught by means of steel traps, placed in their haunts.

They live in pairs; and produce, in the spring of the year, four or five young ones. If caught before they are grown up, they may be tamed. The skin of the Badger, dressed with the hair on, is used for various purposes; and the hairs are made into brushes for painters. The flesh, when the animals are well fed, makes excellent hams and bacon.

OF THE OPOSSUMS IN GENERAL*.

We now come to a race of quadrupeds, so singular in their conformation, and so extraordinary in their habits, as, at their first discovery, to have excited the general surprise and admiration of mankind. The females of most of the species are furnished with abdominal pouches, for the protection and preservation of their offspring. In some of these there are two, in others three, distinct cavities, which can be shut or opened at pleasure. In these pouches the young-ones remain, hanging to the nipples, till they are large enough to run about and provide food for themselves. The Opossums are animals principally confined to the New Continent, and only one species has yet been discovered as a native of Europe.

THE VIRGINIAN OPOSSUM†.

From the formation of the feet of these animals,

* These animals are furnished with an external abdominal pouch. They have ten front teeth in the upper, and eight in the lower jaw: of the former of these the two middle ones are the longest, but of the latter the middle ones are broader and very short. The canine-teeth are long, and the grinders indented. The tongue is somewhat rough.

† See Plate x. Fig. 4.

DESCRIPTION. The Virginian Opossum is about the size of a small cat: from the upright growth of its fur, however, it appears to be much thicker. Its general colour is dingy white. The head is long and sharpened, and the mouth wide. The tail is about a foot long; prehensile; hairy at its origin, but afterwards covered with a scaly skin, which gives it somewhat the appearance of a snake. The legs are short, and blackish; and all the toes (except the interior ones, which are flat and rounded, with nails like those of the monkey tribe) are armed with sharp claws.

SYNONYMS. *Didelphis Opossum.* *Linnaeus.*—*Didelphis Virginian.* *Shaw.*—*Le Sarigue, ou l'Opossum.* *Buffon.*—*Shaw's Gen. Zool. Pl. 107.*

which, in some respects, are like those of the monkeys, it is evident that their motions, on the ground, must be constrained and awkward. In recompense, however, for this apparent defect, they are able to ascend trees with wonderful agility. Here, by the help of their tail, which is so muscular and flexible as to admit of being coiled round the branches, they are more active than most other quadrupeds. Sometimes they will continue for a considerable while together with their bodies suspended, and on watch for prey. At other times, like monkeys and squirrels, they will leap from tree to tree, in pursuit of food, or to escape from their enemies.

If an Opossum be pursued and overtaken, it will feign itself dead till the danger is over; and, says M. du Pratz, it will not, when seized in this condition, exhibit signs of life, though even placed on a red-hot iron; and when there are any young-ones in the pouch of a female, she will suffer both herself and them to be roasted alive rather than she will give them up. These creatures never move till their assailant is either gone to a distance, or has concealed himself; on which they endeavour to scramble, with as much expedition as possible, into some hole or bush. They are so very tenacious of life, that, in North Carolina, there is a well-known adage, "If a cat has nine lives, the Opossum has nineteen."

Although, says M. de Buffon, these animals are carnivorous, and even greedy of blood, which they suck with avidity, they also feed upon reptiles, insects, sugar-canes, potatoes, roots, and the leaves and the bark of trees. Being neither wild nor ferocious, they are easily tamed; and, in a domestic state, are by no means nice with regard to their food. Their smell is offensive, somewhat resembling that of a fox. When two or more Opossums are kept in the same place, they almost continually employ themselves in licking each other; and whenever they are fondled by any per-

son, they make a purring noise, not unlike that of a cat.

In a wild state, when the female is about to litter, she chooses a place in the thick bushes, at the foot of some tree. Assisted by the male, she there collects together a quantity of fine, dry grass; this is loaded upon her belly, and the male drags her and her burden to the nest, by her tail. She produces from four to six young-ones at a time. As soon as these come into the world, they retreat into her pouch or false belly, blind, naked, and exactly resembling little fetuses; and fasten themselves to the teats. Some travellers assert, that, at this period of their existence, they are not bigger than a large fly; a fact, says M. de Buffon, not so much exaggerated as might be imagined, since he had himself seen, in an animal of a species resembling the Opossum, young-ones sticking to the teats that were not larger than beans. They fasten themselves as closely to the teats as if they grew there; and they continue to adhere, apparently inanimate, till they arrive at some degree of perfection in shape, and obtain their sight, strength, and hair; after which they undergo a sort of second birth. From that time they use the pouch merely as an asylum from danger. The mother carries them about with the utmost affection, and they may frequently be seen sporting in and out of this secure retreat. Whenever they are surprised, and have not time to retire into the pouch, it is said, that they will adhere to the tail of their parent, and thus still endeavour to escape with her.

The American Indians spin the hair of the Opossum, and dye it red; and then weave it into girdles, and other parts of their dress. The flesh of these animals is white, and well-tasted, and is preferred by the Indians to pork: that of the young-ones eats very much like sucking-pig.

OF THE KANGUROOS IN GENERAL*.

In their being furnished with an abdominal pouch for the protection of their offspring, these animals are allied to the Opossums. But in other respects, both of structure and appearance, they are widely different. The tail of the Kanguroos is so strong and muscular, as occasionally to serve almost the purpose of an additional leg.

Only three species have as yet been ascertained, all of which are natives of New Holland.

THE GREAT KANGUROO†.

It was in the year 1770 that this very singular species of quadruped was originally discovered, in New Holland, by some of the persons who accompanied Captain

* The Kanguroos have six front teeth in the upper jaw, emarginated; and two in the lower, very large, long, and sharp, pointing forward. There are five grinders on each side in both jaws, distant from the other teeth. The fore-legs are short, and the hinder ones very long; and in the female there is an abdominal pouch, containing the teats.

† See Plate vii. Fig. 3.

DESCRIPTION. These animals have frequently been known to measure as much as nine feet in length, from the tip of the nose to the end of the tail; and to weigh a hundred and fifty pounds. They are slender about the upper parts, and gradually increase in thickness as far as the loins. The fore-legs are seldom more than about nineteen inches in length; whilst the hinder ones are sometimes three feet and a half long. The hind legs, which are perfectly bare and callous beneath, are very strong; and, when sitting erect, the animal rests on the whole of their length. The claws are only three in number; the middle one greatly exceeds the others in length and strength; but the inner one is of a peculiar structure; at first sight it appears to be single, but on further inspection it is seen to be divided down the middle, and even through the ball of the toe belonging to it.

SYNONYMS. *Macropus major.* Shaw.—*Didelphis gigantea.* Linnaeus.—*Shaw's Gen. Zool. Pl. 115.*—*Bew. Quad. p. 439.*

Cook in his first circumnavigation of the world. From the general form and structure of the Kangaroo, there can be little doubt that its chief progressive motion must be by leaps: in these exertions it has been seen to exceed twenty feet at a time, and this so often repeated as almost to elude the swiftness of the fleetest greyhound; and it is able with ease to bound over obstacles nine feet or more in height.

Kangaroos have vast strength in their tail. This they occasionally use as a weapon of defence; for they are able to strike with it so violent a blow, as even to break a man's leg. But this is not their only weapon, for when hunted, as they sometimes are, with greyhounds, they use both their claws and teeth. On the hound's seizing them, they turn, and catching hold with the nails of the fore-paws, strike the dog with the claws of their hind-feet, and sometimes lacerate his body in a very shocking manner.

The Kangaroo generally feeds standing on its four feet, in the manner of other quadrupeds; and it drinks by lapping. In a state of captivity, it has a trick of sometimes springing forward, and kicking, in a forcible manner, with its hind feet; during which action it rests or props itself on the base of its tail.

These animals have the singular faculty of separating, to a considerable distance, the two long fore-teeth of their upper jaw. The female seldom produces more than one young-one at a birth: and so exceedingly diminutive is this at its first exclusion, that it scarcely exceeds an inch in length, and weighs but twenty-one grains. It is received into the abdominal pouch of the mother, though its mouth is merely a round hole, just large enough to receive the point of the nipple. The mouth, however, gradually extends with age, till it is capable of receiving the whole nipple, which then lies in a groove formed in the middle of the tongue. At this period of its growth, feeble as it is in other respects, its fore-paws are comparatively large and strong, and the claws extremely distinct, to facilitate

the motion of the little animal during its residence in the pouch: the hind legs, which are afterwards to become very long and stout, are now both shorter and smaller than the others. The young-one continues to reside in the pouch till it has nearly attained its full maturity. It occasionally creeps out for exercise or amusement; and even after it has quitted this maternal retreat, it often runs into it for shelter, on the least indication of danger.

Kangaroos live in burrows under the ground, and subsist on vegetable substances, and chiefly on grass. In their native state they are said to feed in herds, thirty or forty together; and some individual of the herd is generally observed to be stationed, apparently on watch, at a distance from the rest. They seem to be nocturnal animals. Their eyes are furnished with nictitating or winking membranes, situated at the interior angle, and capable of being extended at pleasure entirely over the ball.

Several Kangaroos have been kept in England, and particularly in the royal domains at Richmond. These have produced young-ones; and we have reason to suppose that there would be little difficulty in naturalizing the species in this country.

OF MOLES IN GENERAL*.

The animals of the present tribe are easily distinguished from all other quadrupeds. Their body is thick, and somewhat cylindrical; and their snout formed like that of the hog, for rooting in the ground in search of worms and the larvæ or grubs of insects, their principal food. The fore-feet are strong, and well calcu-

* In the upper jaw the Moles have six unequal front teeth, and in the lower jaw eight. There is one canine-tooth on each side, in both jaws, the upper ones of which are the largest; there are also seven grinders above, and six below.

lated for digging those subterraneous retreats in which they entirely reside. They have no external ears; and the eyes are very small, and completely hidden in the fur. There are *seven* species.

THE COMMON MOLE*.

Destined by its Creator to seek a subsistence under the surface of the ground, the fore legs of the Mole, which are very short, and excessively strong and broad, are situated outward, and furnished with large claws, by means of which it is enabled to work away the earth from before it with the utmost ease. Its hind feet, which are much smaller than the others, are calculated for throwing back the mould during its subterraneous progress. The snout also is slender, strong, and tendinous; and there is no appearance of a neck. The general length of this animal is between five and six inches.

The eyes of the Mole are exceedingly small; so much so, that many persons have doubted whether they were intended for distinct vision, or only to afford the animal so much sensibility of the approach of light, as sufficiently to warn it of the danger of exposure. They have, however, been proved to contain every property that is requisite to distinct sight. The faculty of hearing is said to be possessed by the Mole in a very eminent degree; and if at any time the animal emerges from its retreat, it is by this means enabled instantly to disappear on the approach of danger.

The females, about the month of April, produce four or five young-ones; and the habitations in which these are deposited, are constructed with peculiar care

* The Mole is an animal so well known, that any particular description of its shape and dimensions is unnecessary.

SYNONYMS. *Talpa Europea*. Linn.—European Mole. *Pennant*.—Mole, Mold-warp, or Want. *Roy*.—Taupe. *Buffon*.—*Bingley's Memoirs of Brit. Quad. Pl.* 19.

and intelligence. The parent animals begin their operations by raising the earth and forming a tolerably high arch. They leave partitions, or a kind of pillars, at certain distances; beat and press the earth; interweave it with the roots of plants; and render it so hard and solid, that the water cannot penetrate the vault. They then elevate a little hillock under the principal arch; and lay upon it herbs and leaves, as a bed for their young. In this situation they are above the level of the ground, and consequently above the reach of ordinary inundations. They are at the same time defended from rain by the large vault that covers the internal hillock. This hillock is pierced on all sides with sloping holes; which descend still lower, and serve as subterraneous passages for the mother to issue from her habitation in quest of food for herself and her offspring. These by-paths are beaten and firm; they extend about twelve or fifteen paces, and issue from the principal mansion like rays from a centre.

In summer, the Mole descends to low and flat land; and generally makes choice of meadows for the place of its residence, because there it finds the earth fresh, and soft to dig through. If the weather continues long dry, it repairs to the borders of ditches, the banks of rivers and streams, and places contiguous to hedges.

This animal seldom forms its gallery more than five or six inches under the surface. In the act of doing this, it scrapes the earth before it on one side, till the quantity becomes too great for it to labour onward with ease. It then works towards the surface, and by pushing with its head, and scratching with its nervous paws, gradually raises the mould, and thus produces those small hillocks so common in our fields. After getting rid of the earth in this manner, it proceeds forward, and continues its labour as before; and a person may easily discover how many Moles are contained in a certain space of ground, by counting the newly-raised

Mole-hills, which have no communication with each other.

Moles, like beavers and some other quadrupeds, live in pairs; and so lively and reciprocal an attachment subsists between them, that they seem to disrelish all other society. In their dark abodes, they enjoy the placid habits of repose and of solitude; they also have the art of securing themselves from injury, of almost instantaneously making an asylum or habitation, and of obtaining a plentiful subsistence.

The operations of the Mole are chiefly to be observed in grounds where the soil is loose and soft. During the summer-time, these animals run in search of food, in the night, among the grass; and thus frequently become the prey of owls. They exhibit much art in the skinning of worms; this they always do before they eat them; stripping off the skin from end to end, and squeezing out all the contents of the body.

When Moles are first caught, either by digging or otherwise, they utter a shrill scream, and prepare for defence by exerting the strength of their claws and teeth. They are said to be very ferocious animals; and sometimes to tear and eat one another. In a glass case, in which a Mole, a toad, and a viper were enclosed, the Mole has been known to dispatch the other two, and to devour a great part of each.

The following is a remarkable instance of the exertions which the Mole is able to make in crossing even broad waters: "On visiting the Loch of Clunie, (says Arthur Bruce, Esq. in the *Linnean Transactions*,) I observed in it a small island at the distance of one hundred and eighty yards from the nearest land, measured to be so upon the ice. Upon this island, Lord Airly, the proprietor, has a castle and a small shrubbery. I remarked frequently the appearance of fresh mole-casts or hills. I for some time took them for those of the water-mouse; and one day asked the gardener if it was so. No, he said, it was the Mole; and that he had caught one or two lately. Five or six

years ago he caught two in traps; and for two years after this he had observed none. But about four years ago, coming ashore one summer's evening in the dusk, he and another person (Lord Airly's butler) saw, at a short distance, upon the smooth water, some animal paddling to the island. They soon closed with this feeble passenger; and found it to be a Mole that had been led by a most astonishing instinct, from the nearest point of land, to take possession of this desert island."

People in general are not aware of the great mischief that is occasioned in fields and gardens by these animals. We are informed by M. de Buffon, that, in the year 1740, he planted about sixteen acres of land with acorns, the greater part of which were in a short time carried away by the Moles to their subterraneous retreats. In many of these were found half a bushel of acorns, and in some even a bushel. M. de Buffon, after this, caused a great number of iron traps to be constructed; and by these, in less than three weeks, he caught 1300 Moles. To this instance of devastation we may add that, in the year 1742, Moles were so numerous in some parts of Holland, that one farmer caught between five and six thousand.

The following is Dr. Darwin's description of the habitations of these animals, and of the usual modes in which they are caught.—"The Moles (observes this writer) have cities underground; which consist of houses, or nests, where they breed and nurse their young. Communicating with these are wider and more frequented streets, made by the perpetual journeys of the male and female parents; as well as many other less frequented alleys or by-roads, with many diverging branches, which they daily extend, to collect food for themselves or their progeny.

"These animals are most active in the vernal months, during the time of their courtship; and many burrows are at this time made in the earth, for their more easily meeting with each other. And though Moles are commonly esteemed to be blind, yet they appear

to have some perception of light, even in their subterranean habitations; because they begin their work as soon as it is light, and consequently before the warmth of the sun can be supposed to affect them. Hence one method of destroying them consists in attending to them early before sunrise. At that time the earth or the grass may frequently be seen to move over them; and, with a small, light spade, their retreat may be cut off by striking this into the ground behind them, and immediately digging them up.

"The Mole suckles four or five, and sometimes six young-ones; which are placed considerably deeper in the ground than the common runs; and the mole-hills near them are consequently larger, and generally of a different colour from the others. These nests are to be dug up; having first intercepted the road between them and the mole-hills in the vicinity, to cut off the retreat of the inhabitants.

"The next important circumstance is, to discover which are the frequented streets, and which the by-roads; for the purpose of setting subterranean traps. This is effected by making a mark on every new mole-hill, by a light pressure of the foot; and the next morning observing whether a Mole has again passed that way and obliterated the foot-mark. This is to be done for two or three successive mornings. These foot-marks should not be deeply impressed; lest the animal be alarmed on his return, and thus induced to form a new branch of road rather than open the obstructed one.

"The traps are then to be set in the frequented streets, so as to fit nicely the divided canal. They consist of a hollow semi-cylinder of wood; with grooved rings at each end, in which are placed nooses of horsehair, fastened loosely by a peg in the centre, and stretched above-ground by a bent stick. When the Mole has passed half-way through one of these nooses, and removes the central peg in his progress, the bent stick rises by its elasticity, and strangles him."

OF URCHINS IN GENERAL*.

Urchins are animals usually of small size. There are seven known species. Of these, one is a native of South America, four are found in the East Indies, one in Siberia, and the other, the Common Hedgehog, is a native of Europe. They feed, for the most part, on roots, worms, and insects, which they dig out of the ground by their muzzle or snout. None of the species are carnivorous.

THE COMMON HEDGEHOG†.

The usual residence of these animals, which are natives of most of the temperate parts both of Europe and Asia, is in the hedge-rows or thickets. During the day-time they lie concealed in their holes, and at night wander about in search of food, which consists chiefly of fallen fruit, roots, and insects. Naturalists have alleged that they enter gardens; where they mount trees, and descend with pears, apples, or plums, stuck upon their spines. This, however, is a mistake; for, when kept in a garden, they never attempt to climb trees; nor even to stick fallen fruit upon their spines. They also are undeservedly reproached with sucking cattle and injuring their udders; for the smallness of their mouths renders this altogether impossible.

The habits of these animals are, in many respects, in-

* These animals have two front teeth above and below; of which those in the upper jaw are distant, and those of the lower are placed near together. On each side there are canine teeth; in the upper jaw five, and in the lower three. There are also four grinders on each side, both above and below; and the body is covered on the upper parts with spines. The tail and feet are very short; and the snout is somewhat cartilaginous.

† SYNONYMS. *Erinaceus Europæus*. *Linnaeus*.—Common Hedgehog. Common Urchin. *Pennant*.—*Hérisson*. *Buffon*.—*Shaw's Gen. Zool. Pl.* 121.—*Bewick's Quad.* p. 484.

teresting. In the month of June, 1782, says a correspondent in the Gentleman's Magazine, a full-grown Hedgehog was put into a small yard, in which was a border of shrubs and annuals. In the course of a few days he formed, beneath a small holly-tree, a hole in the earth, sufficiently large to receive his body. After a while a small shed was built for him, in the corner of the yard, and filled with straw; but the animal would not quit his former habitation until it was covered with a stone. He then took possession of the shed, and, every morning, carried leaves from a distant part of the border, to stop its mouth. His principal food was raw meat and mice. Of the latter he would eat six at a time, but never more; and, although these were thrown to him dead, he bit them all on the neck, before he began to eat any. He would also eat snails with their shells; but would leave any thing for milk, which he lapped exceedingly slow. To this, even if set six or eight yards distant from his shed, he would almost always come out half an hour before his usual time. If the person who usually fed him, neglected to do so, he would follow him along the yard; and, if the door was open, he would even go into the house. If meat was put near the mouth of his shed, in the day-time, he would sometimes pull it in and eat it. As the weather became colder, he carried more leaves into his shed; and sometimes he would not come out for two or three days successively. About the end of November he died; from want of food, as was supposed, but, most probably, from the severity of the weather.

Mr. White observed, that the manner in which the Hedgehogs ate the roots of the plantain in his grass walks was very curious. With their upper jaw, which is much longer than the lower, they bored under the plant; and gnawed the root off upwards, leaving the tuft of leaves untouched. In this respect they were serviceable, as they thus destroyed a troublesome weed; but they in some measure defaced the walks, by digging in them small round holes.

The Hedgehog has a very uncommon mode of defending itself from the attacks of other animals. Being possessed of little strength or agility, he neither attempts to fly from, nor to assail his enemies; but erects his spines, and rolls himself up like a ball, exposing no part of his body that is not covered with these sharp weapons. He will not unfold himself unless thrown into water; and the more he is frightened or harassed, the closer he shuts himself up. While in this state, most dogs, instead of biting him, stand off and bark, not daring to seize him; and, if they attempt it once, their mouths are so pricked with his spines, that it is with difficulty they can be prevailed upon to do it a second time. He is easily taken; for he neither attempts to escape, nor to defend himself by any other means than this.

This animal, which may, in some degree, be rendered domestic, has been frequently introduced into houses, for the purpose of destroying those troublesome insects, the cock-roaches and beetles, which it pursues and devours with great avidity.

A gentleman, whose kitchen in London was infested with black-beetles, was recommended to put a Hedgehog into it. He, consequently, had one brought there which had been caught in his garden in the country. At first it was, he says, very sulky, and continued folded up; but, after a while, hunger compelled it to open itself, in search of food; and it ate very heartily of apples and bread soaked in milk: it also sucked, with great eagerness, the milk out of its platter. In a little time it became so far domesticated as not to fear either cats or dogs; and even to take its food out of the hand of any one who offered it. This animal was usually kept in an upright basket, and, when the family were going to bed, it was customary to bring out the basket and put it into the kitchen. The Hedgehog then crawled up the side; and having, by that means, tipped it down, he crawled out, and began sharply to look around for his soaked bread and pan of milk. Having tasted this with great apparent delight, he used, imme-

diately, to run under a closet-door in the kitchen, which he chose as a place of retreat. Finding all safe, he returned and retreated many times, until he had finished his supper. He was, in like manner, supplied in the day-time, and, in similar manner, would throw down his basket and wander about for food. If, at night, there was much talking; if the candles were put too near, or if he perceived himself to be closely observed, he ran to his lurking-place, until the lights were removed and the room became quiet. This Hedgehog continued, for a long time, in perfect health; and he grew so fat that, after a little while, it was with difficulty he could squeeze himself under the closet-door. By his good services he well merited his board and lodging, for scarcely one beetle was left in the house; and it is supposed that he also destroyed the mice.

In the year 1799, there was a Hedgehog in the possession of a Mr. Sample of the Angel Inn at Felton, in Northumberland, which performed the duty of a turnspit, as well, in every respect, as the dog of that denomination. It ran about the house as familiarly as any other domestic quadruped, and displayed an obedience till then unknown in this species of animals.

At the commencement of winter the Hedgehog wraps itself up in a warm nest of moss, dried grass, and leaves; and sleeps out the rigours of that season. It is frequently found so completely encircled with herbage, that it resembles a ball of dried leaves; but when taken out, and placed before a fire, it soon recovers from its torpidity. The female produces four or five young-ones at a birth; which are soon covered with prickles, like those of the parent animal. The nest formed for the young-ones is large, and is composed principally of moss.

The Hedgehog is occasionally an article of food, and is said to be very delicate eating. The skin was used by the ancients for the purpose of a clothes-brush.



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